Journal of

CHRONIC DISEASES

VOL. 7 FEBRUARY, 1958 NO. 2

VOL.
7
1958

In Memoriam

JOSEPH EARLE MOORE
(1892-1957)

DR. JOSEPH EARLE MOORE, the Editor, died on December 6, 1957, after a long illness due to prostatic carcinoma.

The concept of a journal devoted to advancing knowledge in the field of chronic disease in all age groups arose with Dr. Moore. His imagination, continuously broadening viewpoint, and extraordinary energy and leadership led to the launching of the JOURNAL OF CHRONIC DISEASES on January 1, 1955, after a year of preparation. Dr. Moore developed a comprehensive view of long-term illness built on his many years of experience in the field of experimental and clinical syphilis. His many contributions in this area are outstanding. In 1954, he initiated the Chronic Disease Division of the Medical Clinic of The Johns Hopkins University and Hospital. Dr. Moore believed that the precise and extended studies which had yielded important information concerning the natural history of syphilis and its management could be applied to a number of other long-term diseases, knowledge about which was meager. The recent studies of Dr. Moore and his associates on the relationship between the biologically false positive Wassermann test and the subsequent development of systemic lupus erythematosus demonstrated the importance of forward-looking rather than retrospective inquiries concerning some chronic diseases. It was characteristic of the man that his curiosity as a scientist seemed to accelerate at a time when many investigators are content to sit on their previous accomplishments.

Dr. Moore had a distinguished career, and his association with The Johns Hopkins Hospital and Medical School can be truly described as of a loving nature. It cannot be said, however, that the Celt in him allowed him to pass over many opportunities to express his honest opinion in matters of controversy. The fact that he tempered the shillalah with a cushion of wit was a source of wonder and joy to his many friends. Dr. Moore was Professor of Medicine in the Medical School and Adjunct Professor of Public Health Administration in The Johns Hopkins School of Hygiene and Public Health. He served as Consultant to the Maryland State and the United States Public Health Services and was Chairman

of the Subcommittee on Venereal Diseases of the National Research Council, advising both the military and civilian Surgeons General. He received the Medal for Merit in 1946.

Dr. Moore guided the course of this JOURNAL even during the late stages of his last illness. His associates in this enterprise were deeply appreciative of his wide knowledge, his sharp critical judgment, and his superb editorial capabilities. They will always remember him as an organic link between the traditions of the early and the present Hopkins. Dedication to medicine, scientific curiosity, test by experiment, critical appraisal, and communication of knowledge were dominant facets of his credo. His associates on the JOURNAL bid him adieu with the conviction that he would like us to remember him as we knew him: a spirited protagonist of his beliefs, a staunch and affectionate friend, a delightful companion in periods of conviviality, and a man whose indomitable courage was unshaken to the end.

DAVID SEEGAL

VOL.
7
1958

Original Communications

DELAY IN THE DIAGNOSIS AND TREATMENT OF CANCER: A CRITICAL ANALYSIS OF THE LITERATURE

BERNARD KUTNER, PH.D.,* HENRY B. MAKOVER, M.D.,** AND ABRAHAM OPPENHEIM, M.D.***

NEW YORK, N. Y.

From the Department of Preventive and Environmental Medicine, Albert Einstein College of Medicine of Yeshiva University and the New York City Department of Health

(Received for publication March 29, 1957.)

IT IS estimated that 500,000 new cases of cancer appear each year in the United States. Last year approximately 250,000 died of this disease. There are hopeful signs that the morbidity and mortality of cancer will eventually be reduced by more precise scientific knowledge of the cause and cure of neoplastic diseases. Until then, however, it is generally agreed that early, correct diagnosis and treatment by surgery, chemotherapy, irradiation, or a combination thereof, are the major means of controlling cancer.

A relatively limited number of neoplasms can be prevented by reducing or abolishing exposure to certain known carcinogenic agents. But the major emphasis must be placed upon the detection of precancerous and early malignant conditions by mass surveys or by the examination of patients who seek their physician's advice because of symptoms incidental to or related to cancer. Experience has demonstrated that detection of cancer through mass surveys and periodic health examinations can be accomplished only with limited numbers. The major source of control still depends upon the individual's willingness to seek medical care early in the course of the disease and upon the physician's skill, perspicacity, and alertness in diagnosing and instituting prompt therapy.

*Assistant Professor, Department of Preventive and Environmental Medicine, Albert Einstein College of Medicine of Yeshiva University.

**Professor, Department of Preventive and Environmental Medicine, Albert Einstein College of Medicine of Yeshiva University.

***Director of Cancer Control and Research, New York City Department of Health and Visiting Assistant Professor of Surgery and Pathology, Albert Einstein College of Medicine of Yeshiva University.

Voluntary and governmental health agencies, with liberal assistance from the media of mass communication, have directed efforts to increase public awareness of the need to seek medical advice upon the early appearance of symptoms. These agencies and private foundations have supported educational programs to promote a greater understanding among physicians of all phases of the cancer problem. Nevertheless, studies have indicated that relatively minor gains have been made in reducing the time lag between "onset of disease" and the patient's first visit to a physician. More discouraging is the paucity of evidence of greater promptness in diagnosis and institution of adequate therapy by physicians.

NATURE OF THE PROBLEM

Despite a voluminous literature on delay in the diagnosis and treatment of cancer, little progress has been made in coming to terms with the central problem, namely, what is the nature of delay in cancer? Understanding the ramifications of this concept will reduce much thought on the subject to manageable dimensions. We prefer the definition of delay proposed by Titchener and associates,[93] "procrastination of a person with an outstanding discernible sign or symptom, signifying in his culture, a deleterious somatic change." Two significant features of this definition are the terms "discernible" and "deleterious." The sign or symptom must be recognized by the person as an indication to seek medical advice. Moreover, it must signify a potentially harmful condition. This and similar definitions of delay possess an inherent difficulty. This is the relationship between delay and procrastination.

When a person experiences a physical complaint and recognizes it as a medical problem, but despite this recognition, puts off his initial visit to a physician, we may describe his behavior as *procrastination*. Procrastination by the individual, however, may be but one factor influencing the duration of the interval between onset of the disease and start of treatment. *Delay* may be said to occur, therefore, when a period of time elapses between the initial biologic changes that herald the onset of cancer and the moment that definitive anticancer therapy is begun. The time segment between biologic onset and the conscious recognition of symptoms may best be understood as the period of "*unavoidable*" *delay*. In this earliest and most treatable phase of growth, the silent nature of cancer in most cases precludes its discovery or recognition by the patient, and often times it is equally refractory to medical observation. The point at which so-called "early" cancer makes its presence known sensorially is a perplexing variable that does not systematically relate to the stage or activity level of the disease process. This variability depends upon the site, degree of intrusion upon nerves and blood vessels, rate of growth, and degree of visibility. Therefore, patient delay may be said to occur (disregarding the stage, size, degree of malignancy, or the nature of sensory expression) when the patient, upon recognition of the symptoms of some undefined ailment, fails to approach a physician or medical service for its evaluation. Such procrastination one may term "*avoidable*" *delay*.

In the literature analyzed below, reports on patient delay are usually cited as covering the period between first appearance of symptoms and first contact with a physician.

Can the onus of procrastination reasonably be placed upon a patient who recognizes a symptom of cancer which appears to him to be vague, lacking in physical discomforts, and "benign" in every other respect? In our society it is most common for an individual to ignore or to pass lightly over minor physical complaints. Were this not the case, physicians and medical facilities would be quickly inundated with demands for attention. Often the symptoms of cancer are indefinite, commonly mimicking the symptoms of a variety of other "insignificant" ailments. Some of the well-publicized danger signals of cancer are so common to many benign (or supposed benign) conditions that only the most fastidious person would immediately see a physician upon their appearance. Therefore, patient delay should not be reckoned from the date of first appearance of symptoms, but from the date the person first *recognizes* that he has a complaint requiring the services of a physician. Patient delay and procrastination should, therefore, be synonomous. To understand the nature of delay in the diagnosis and treatment of cancer it is necessary to differentiate between biologic onset and first appearance of symptoms and between this appearance and the patient's recognition of a legitimate medical complaint. These relationships are schematically demonstrated in Fig. 1.

VOL.
7
1958

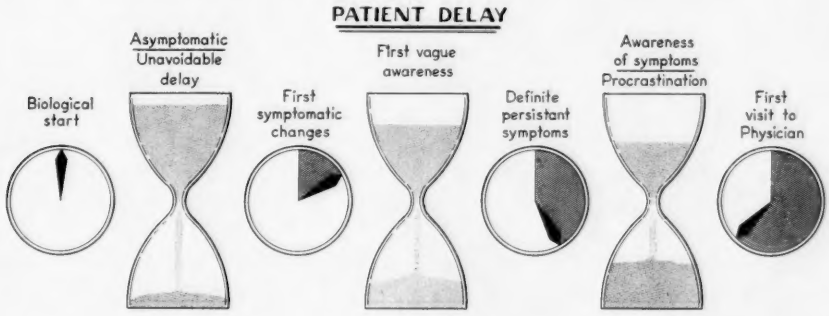

Fig. 1

The task of medicine is to have the patient visit the physician while still asymptomatic and to encourage the individual with "minor" symptoms to seek prompt medical advice. There is need to distinguish between delay brought about by the insidious nature of the disease, by the failure of the individual to appreciate the significance of the early symptoms of cancer, and true "procrastination." This type of classification will permit us to make predictions in the form of hypotheses, such as the following: "avoidable delay will be greater among those who are aware of the danger signs, better educated, and higher in the social class structure"; "unavoidable delay will occur more frequently among those who lack knowledge about cancer, who are less educated, and who are lower in the class structure." Delay that is calculated in an undifferentiated manner will include all elements of the population and all reasons simultaneously. Such an approach fails to appreciate the variability of behavior consequent upon differences in knowledge, background, and values concerning medical complaints.

THE PREVALENCE OF DELAY

Despite the fact that exactness in identifying delay in cancer diagnosis and therapy has been wanting, extensive effort has been made to demonstrate the existence of delay. Wainwright[96] wrote, in 1911, of patient procrastination and failure of physicians to recognize cancer. Frequency of delay was reported by the Pennsylvania Commission on Cancer in 1912[21] and by Gibson[34] in 1915, Farr[31] in 1919, Simmons and Daland in 1920,[85] and again in 1924.[86]

The most significant modern study of this problem is the investigation of Pack and Gallo[68] in 1938 who questioned 1,000 patients at Memorial Hospital (New York) and the Landrum Tumor Clinic of Paterson (New Jersey) General Hospital. They defined patient delay as occurring when the patient fails to seek medical advice within 3 months of the onset of symptoms or where the patient fails to follow a referral to a hospital within this period of time. Physician delay is said to occur when one month or more elapses between the time the patient is first seen by the physician and the time that a diagnosis is established or referral is made to an appropriate agency. These temporal criteria of delay were arbitrarily established as denoting the most reasonable periods during which patient and physician could be expected to act. They found that 44.3 per cent of the group delayed beyond the 3-month criterion but were not delayed by their physicians, that 17 per cent promptly sought medical advice but were delayed by their physicians, and that in 18 per cent both patient and physician were responsible for delays beyond the established criteria. No delay occurred in 20.7 per cent of the cases. In effect, these figures indicate that more than 3 patients in each 5 did not seek medical attention for their symptoms within 3 months after first experiencing them and that nearly 2 patients in each 5 were delayed by the actions of their physicians whether or not they were prompt in appearing at the physician's office.

Six more recent studies comparable to that of Pack and Gallo have been reported in the literature: Leach and Robbins[53]; DeLawter[25]; Anderson[4]; Howson[44]; Robbins, Conte, Leach, and Macdonald[75]; and Robbins, Macdonald, and Pack.[74] While these represent considerable variations in the populations studied, the size of the samples and the sites afflicted, they commonly employed the Pack and Gallo temporal criteria of delay and technique of data collection. In each instance the patients were interviewed to determine the dates of first awareness of symptoms, of the first contact with a physician, and of diagnosis or referral for treatment. As indicated in Table I, there is variation in the extent of both patient and medical delay. Assuming the reliability of these data, one might venture the opinion that little appreciable difference in either patient or physician delay has been effected during the interval from 1938 to 1952. The substantially smaller frequency of physician delay in the DeLawter and Anderson studies may be attributed in part to the special populations investigated.

A further interesting, though not strictly comparable study was carried out by Harms, Plaut, and Oughterson[40] in 1943 at the New Haven (Connecticut) Hospital and Tumor Clinic. A total of 158 patients successively seen forms the sample. Delay was defined as having occurred if the patient failed to visit a physician within one month following onset of persistent symptoms. Physician

delay was invoked if longer than 3 weeks elapsed between the first visit of a patient and the time of diagnosis or referral (Table II).

TABLE I. PHYSICIAN AND PATIENT DELAY IN THE DIAGNOSIS AND TREATMENT OF CANCER

AUTHOR	NUMBER OF CASES	SITE	CRITERIA	PER CENT OF			
				PATIENT DELAY	PHYSICIAN DELAY	MUTUAL DELAY	NO DELAY
Pack and Gallo (1938)	1,000	All areas	patient 3 mo. physician 1 mo.	44.3	17.0	18.0	20.7
Leach and Robbins (1947)	500	All areas	patient 3 mo. physician 1 mo.	32.0	27.8	10.8	29.4
DeLawter (1948)	420	All areas	patient 3 mo. physician 1 mo.	37.9	5.9	18.8	37.4
Anderson (1949)	72	All areas	patient 3 mo. physician 1 mo.	37.5	16.7	2.8	43.0
Howson (1950)	1,580	Pelvic	patient 3 mo. physician 1 mo.	41.5	14.6	14.8	29.1
Robbins and others (1950)	1,339	All areas	patient 3 mo. physician 1 mo.	31.2	23.4	12.9	32.5
Robbins and others (1953)	229	All areas	patient 3 mo. physician 1 mo.	39.8	18.8	14.8	26.6

TABLE II. PATIENT AND PHYSICIAN RESPONSIBILITY IN DELAY
(Harms, Plaut, and Oughterson)

	% CASES
Patient delay (1 month)	49
Physician delay (3 weeks)	15
Mutual delay	25
No delay	11
	100
Number of cases—158	

Griswold, Cutler, and Eisenberg[38] studied 5-year survival rates for residents of Connecticut for the 17-year period from 1933 to 1955. Survival rates were computed by stage at diagnosis for various sites. Their findings indicate that:

1. Significant improvement in survival rates occurred in patients with localized or regional cancers of the large intestine, rectum, and cervix.

VOL. 7 1958

2. Localized cancers of the prostate, corpus, and bladder had an increased survival rate.
3. Survival rates for primary cancers of the stomach, lung, bone, esophagus, brain, and ovary have remained low.
4. In breast cancer, no change has occurred in survival over the 17-year period in the case of localized cancers but a small survival increase was noted in cases having regional involvement.

They write: "At present, for cancers of the lung, stomach, esophagus and brain, prognosis is poor even in cases considered to be localized at the time of diagnosis. Further research into diagnostic methods to uncover the silent, hidden cancers, as well as additional advances in therapeutic technics, is apparently required if better control of cancer is to be achieved."

This study has relevance to the present analysis in pointing out differences in survival patterns for localized or regional cancers. Thus, in cancer of the breast, large intestine, cervix uteri, and to a limited extent cancer of the stomach, confinement of the disease to its primary site is associated with a higher 5-year rate of survival. In so far as early diagnosis and treatment prevent the spread of the disease to regional nodes or to adjacent organs, reduction in delay plays a role in survival. The authors place special emphasis upon improved therapy in the previous 17 years as the major factor in such improvement of survival as has occurred. This does not, however, vitiate the need for making modern therapy available as early as possible if we may assume that early treatment will improve prognosis in some cases.

In another paper bearing on the same data, Shimkin, Griswold, and Cutler[83] indicate that delay may play a role in survival rates for cancer of the uterine cervix, breast, larynx, thyroid, and perhaps other sites as well. They write: "It would seem reasonable to predict that further improvement in survival will be achieved through earlier clinical recognition of the disease and still further improvement in treatment. Exploitation of public and professional education toward such goals certainly appears to be sound."

DURATION OF PATIENT DELAY

We have dealt with the manner in which the frequency of delays has been handled. Studies are also available concerning the duration of delay on the part of both patient and physician. Six comparable studies are summarized in Table III dealing with patient delay. Shedden's series[80] had the fewest cases of less than 3 months' delay, while Goldsen's subjects[35] showed the greatest incidence of promptness. Neither of these studies is typical, however, since Shedden had no information from 38 per cent of his patients and Goldsen's population is comprised of a group of patients, 58 per cent of whom did not have cancer. The remaining studies show that from 45 to 60 per cent of patients delayed seeing a physician for 3 months or longer following the first awareness of symptoms. It should be noted in passing that Stearns' cases[88] were all cervical carcinoma, Gray and Ward's[36] were all carcinoma of the stomach, and the Aitken-Swan and Paterson[1] series consisted of patients with cancer of the breast, uterine cervix, skin, or mouth. The other 3 studies report on a wide variety of sites.

Other studies reporting upon duration of delay are those of Brindley[12] who found an average of 9 months of patient delay in 167 cases; Rosser and Kerr[76] in a study of 17 young patients who found a combined physician and patient delay of 10 months from onset of symptoms to operation; and Braund and Binkley[11] who found the duration from onset to first contact with a physician to have been 8.9 months in 108 unselected rectal cancer cases. Of the 100 cases that had received previous medical advice, 75 experienced an additional delay of 9.9 months before a referral was made. In all, 69.4 per cent had gone untreated for an average of 18.9 months from onset. Diddle[26] studied 1,607 women in Dallas, Texas and found a median delay period of more than 7 months for all forms of genital cancer. The range of delay periods was from 3.3 months for urethral cancer to 12.8 months for cervical cancer.

Miller has compared data from several studies of corpus cancer. In 1929,[63] he reported an average delay of 25.5 months from the onset of symptoms to the first treatment in cases of corpus carcinoma. In 1934, Collins[19] reported the delay in 395 cases to be 12.7 months. In 1940, Miller[61] reported on a new series of 183 cases seen between 1931 and 1940. The delay averaged 11.1 months. In 1946, Miller and Henderson[64] reported the delay to average 12.5 months. Broken down according to the sources of delay, the findings of these studies are shown in Table IV.

VOL. 7 1958

TABLE III. DURATION OF PATIENT DELAY

DURATION OF DELAY	SHEDDEN (1939)		STEARNS (1950)		TAYLOR (1951)		GOLDSEN (1952)		GRAY AND WARD (1952)		AITKEN-SWAN AND PATERSON (1955)	
	%	CASES	%	CASES	%	CASES	%	CASES	%	CASES	%	CASES
Less than 3 months	27	(34)	40	(91)	43	(108)	68	(490)	44	(37)	55	(1,485)
3 to 6 months	20	(25)	18	(41)	37	(93)	17	(120)	16	(14)	28	(756)
6 to 12 months	18	(22)	18	(41)					18	(15)		
More than 12 months	—	—	24	(55)	20	(49)	15	(104)	22	(19)	17	(459)
No data	35	(43)	—	—	—	—	—	—	—	—	—	—
Total	100	(124)	100	(228)	100	(250)	100	(714)	100	(85)	100	(2,700)

TABLE IV. DELAY IN CORPUS CANCER

DELAY (MONTHS)	MILLER (1929)	COLLINS (1934)	MILLER (1940)	MILLER AND HENDERSON (1946)
Patient (onset to diagnosis)	16.0	8.9	7.1	Not given
Physician (diagnosis to treatment)	9.5	3.8	4.0	Not given
	25.5	12.7	11.1	12.5

DURATION OF PHYSICIAN DELAY

The length of the delay period for which physicians have been declared responsible has been reported in several studies. Shedden[80] found that half of the cases on whom data were available were not referred for diagnostic work-up or treatment by the initial examining physician within one month of contact. In some instances, patients had been delayed for a year or more. Gray and Ward,[36] using a 3-month criterion of physician delay, found that 35 per cent of patients with stomach cancer had been delayed from 3 months to over 2 years (Table V). Without doubt, the delay figure would be much larger if the one-month criterion had been employed. All told, an average of 14.2 months of delay from onset to diagnosis was incurred.

TABLE V. PHYSICIAN DELAY IN STOMACH CANCER
(Gray and Ward)

PERIOD OF DELAY	PER CENT	CASES
Less than 3 months	66	65
3 to 6 months	14	14
6 to 9 months	5	4
9 to 12 months	5	5
1 to 2 years	5	5
Over 2 years	5	5
	100	98

Boyce,[10] in 1953, reviewed two previous reports[8,9] on 200 surgical cases of carcinoma of the stomach and 186 fatal cases of lung cancer. Only 10 of 69 patients with lung cancer (14.5 per cent) and 16 of 101 patients with stomach cancer (15.0 per cent) who sought medical advice were promptly referred to the hospital. Moreover, once in the hospital, about one-fourth of the 200 stomach cancer patients experienced delays of both diagnosis and treatment. Principally, these cases were diagnosed as, and treated for, gastric ulcer. Boyce[8] reports that preoperative diagnosis of "ulcer" in cases of gastric cancer have been made in from 13 to 20 per cent of cases seen at Massachusetts General Hospital, Mayo Clinic, and Lahey Clinic. In his own study, 80 of the 200 cases were operated upon within 2 weeks of admission (a period considered sufficient to establish diagnosis and prepare for surgical treatment). In 132 of the 186 cases of fatal lung cancer, patients were under observation in the clinic or hospital for periods ranging from 2 weeks to 9 months before diagnosis. Cook,[28] in 1948, reported on 117 cases of proved gastric cancer seen at Brooklyn Hospital from 1935 to 1946. In 28 per cent of the cases patients had been told they had gastric ulcer and were treated accordingly. Cook noted that the medical difficulty was enhanced by the incorrect evaluation of patients giving a history of gastric ulcer and by the ulcer-typical intermittent periods of exacerbation of pain. Large differences between various institutions reporting diagnostic errors in gastric cancer may reflect differences in routine procedures as well as differences in the cooperativeness of patients to submit to thorough diagnostic examinations and tests.

Burdick and Chanatry[14] surveyed the experience of 48 surgeons of the Central New York Surgical Society concerning breast cancers seen between 1920 and 1947. Altogether, 972 cases of delay from onset of symptoms to treatment were reported (Table VI). The authors report that 84 per cent of the delay was attributed to the patient and 16 per cent to the physician. Instances of mutual delay were not given to refine these figures.*

TABLE VI. COMBINED PATIENT AND PHYSICIAN DELAY BETWEEN ONSET OF SYMPTOMS AND TREATMENT IN BREAST CANCER
(Burdick and Chanatry)

PERIOD OF DELAY—ONSET TO TREATMENT	PER CENT	NO. CASES
Less than 1 month	21	204
1 to 3 months	28	272
3 to 6 months	18	175
6 to 12 months	13	127
Over 1 year	20	194
	100	972

Physician delay may be shown schematically in Fig. 2.

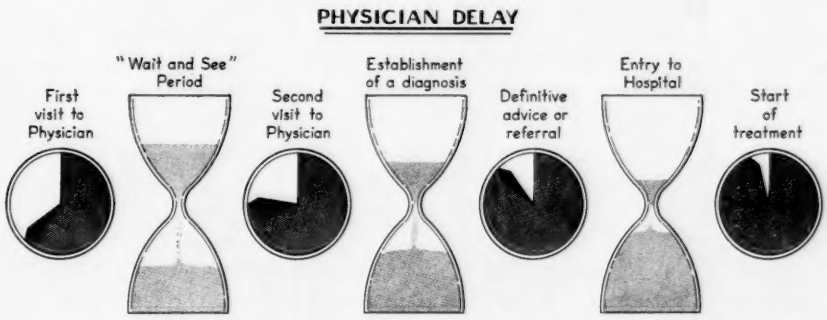

Fig. 2

REASONS FOR DELAY

Why do some patients put off seeking medical aid? Why is this aid not forthcoming in adequate measure in some instances?

Any discussion of causation in the field of human behavior must begin with the understanding that the final answers may remain unknown. At the level of analysis we shall engage in here, we shall approach the ultimate question of cause only through an examination of reasons offered to explain delays. In the diagnosis and treatment of cancer, we can clearly distinguish 5 different sources of delay, namely:

1. Patient delay: the failure of the person aware of his symptoms to seek medical advice within a "reasonable" time.

*An interesting finding of the survey indicates the value of early diagnosis. Of those cases seen within one month of onset, 35 per cent had involvement of the axillary nodes; while in those cases seen beyond three months of onset, 53 to 56 per cent had axillary node involvement.

2. Patient delay in failing to follow through with therapy: i.e., failure to complete a course of irradiation, refusal to permit operation, failure to report for outpatient or follow-up care.
3. Medical delay in reaching a definite diagnosis or failure to refer the patient to an appropriate source for the evaluation of symptoms.
4. Medical delay in instituting treatment once diagnosis has been established. In the case of surgery, 2 weeks is considered reasonable time to prepare a patient for operation.
5. Medical delay engendered by inadequate treatment: i.e., insufficient irradiation and/or inadequate surgery.

Patient Delay.—Until recently, little was known about cancer patients either as individual personalities or as a group. Still less is known of those who took prompt action as well as those who procrastinated in the face of symptoms.

Macdonald[56] compared reasons for delay among 1,000 patients each in the years 1938 and 1946. The pattern appears to have undergone some change in that period. As seen in Table VII there was nearly a 27 per cent increase in the "no delay" group. More adequate medical advice and a decline in negligence or ignorance of the disease are most notable.* Fear of cancer did not appear to be a very significant factor in delay except in a few cases. Unfortunately, combining those who were ignorant of the disease with those who neglected symptoms obscures a very significant distinction that should be made.

TABLE VII. REASONS FOR DELAY
(Macdonald)

	PER CENT	
	1938	1946
No delay	10.6	38.2
Fear	2.0	1.7
Economics	1.5	0.0
Inadequate medical advice	12.1	2.9
Cults	.2	.5
Negligence or ignorance	33.8	26.5
Not stated	39.8	30.2
	100.0	100.0

Bates and Ariel[7] studied 168 veterans with cancer symptoms seen between July and September, 1947, at Hines Veterans Administration Hospital. The three main sources of delay given were: (1) procedural (32 per cent); (2) inadequate initial medical care (31 per cent); and (3) failure of the patient to see a

*While interesting trends are reported, it should be noted that large "no response" groups exist. We must accept the findings with reservations in view of this fact.

physician (25 per cent). They report that *the most important cause of patient delay was the patient's ignorance of the seriousness of his condition.* Of those who went to a physician, most continued to seek medical advice from at least one other physician. More than half of all patients criticized their physicians for unduly delaying the necessary treatment.

Harms, Plaut, and Oughterson[40] studied 158 successive cancer patients seen either at New Haven Hospital or Tumor Clinic. By far the largest group (56.9 per cent) felt that they did not report sooner since their symptoms did not seem to be serious enough to justify action, nor were they apparently suspicious of cancer.* Among the other reasons given, 10 per cent of patients held their own negligence to blame for the delay, while another 10 per cent attributed the cost of medical care to be the main problem. Only 2 patients were regarded as delaying because they feared cancer, and 2 others feared physicians.

VOL.
7
1958

Robbins and associates[75] compared studies of patients at Memorial Hospital in New York during 1947 and 1948 with the Pack and Gallo[68] and Leach and Robbins[53] studies. Superficial cancer (skin, lip, anterior tongue, or mouth) showed the longest delay while the shortest delay was found in patients with breast cancer. A considerable decline was noted in the number of months between the appearance of first symptoms and the establishment of a diagnosis between the 1946 and 1948 series. This is summarized in Table VIII. The greater "self-treatability" of superficial cancers would partly explain delay of adequate medical care. At the same time, patient knowledge concerning breast cancer apparently has markedly reduced delay in having breast symptoms examined.

TABLE VIII. MONTHS DELAY FROM FIRST SYMPTOMS TO DIAGNOSIS
(Robbins and Associates[75])

TYPE OF CANCER	1946	1948
*Superficial	4.0	2.5
†Thorough examination required	2.5	.60
‡Special examination required	1.5	.40
Breast	1.75	.25

*Skin, lip, anterior tongue, and mouth.
†Floor of mouth, posterior tongue, pelvic area, and distal rectum.
‡Lung, esophagus, stomach, kidney, and bladder.

Psychological factors: Considerable thought has been given recently to the psychologic factors that contribute to patient delay. Youngman[103] studied 50 patients who delayed seeking medical advice. He defined certain personality "defects" of delayers. They were either subnormal in intelligence, overcheerful, apathetic, worried, elderly or senile, depressed, or mentally abnormal. Since his sample is tiny and uncontrolled, it is to be doubted that these categories are significant distinguishing characteristics of any "delaying type."

*Nevertheless, when asked directly, 80 per cent felt that, in general, cancer was curable, and 91 per cent stated that they thought that treatment for cancer was urgent.

Shands, Finesinger, Cobb, and Abrams[79] studied patients with diagnosed cancer at Massachusetts General Hospital. They noted 4 types of defense mechanisms contributing to delay. These were:

1. *Avoidance*—subconscious awareness of symptoms, not permitting the thought to penetrate through to consciousness.
2. *Suppression*—taking notice of symptoms, but dismissing them as unworthy of any action.
3. *Denial*—cancer is suspected, but the idea is dismissed, presumably because it is too abhorrent.
4. *Destiny neurosis*—frankly admitting cancer, but doing nothing about it because it is willed by fate.

Although the mechanisms noted by Shands and associates are undoubtedly significant they assume a "basic fear" as the modus operandi. One might caution that there can be rational bases in paying no heed to seemingly innocuous symptoms. Individuals having cancer *do overlook minor symptoms or dismiss them as insignificant or reject a suspicion as needless worry.* Documentation for this position may be found in the study of Taylor[92] who interviewed 250 cancer patients at Memorial Hospital (New York) finding 57 per cent "culpable" and 43 per cent "nonculpable" of delay. She divided the reasons for delay into three types: emotional, socioeconomic, and knowledge.* Of the 142 culpable patients, 126, or 89 per cent, stated that *they felt their symptoms were not serious enough to warrant medical care.* Only 22 patients suspected they had cancer. Among the prompt group, 45 of the 108 had suspected cancer, although only 19 knew of the danger signs. This suggests a possible cancer "consciousness" among some of these patients without specific knowledge of the disease. Knowledge that treatment for unusual symptoms was required, rather than cancer, brought the patient to the physician. All background factors except age were uncorrelated with delay. (The older patient tended to delay.)* It should be stressed here in evaluating the role of information in promoting cancer fears that twice as many patients sought medical care because they feared they had cancer than those who had delayed while suspecting it.

King and Leach[49] studied 329 patients randomly sampled from among persons applying to Memorial Hospital (New York) for diagnosis of suspected cancer. A questionnaire was employed covering five areas: social, economic, emotional, knowledge, and physical characteristics. The group was divided into two parts: (1) those who delayed coming to the hospital more than 3 months after onset of symptoms, and (2) the nondelayers who reported within 3 months. Of the 329 patients, 135, or 41 per cent, were classed as delayers, and 194, or 59 per cent, as nondelayers. The findings are divided into five categories: social characteristics, economic factors, knowledge, emotional factors, and physical symptoms.

---

*Among other reasons given for delay were inability to carry the cost of medical care, obligations to dependents, fear of physicians and hospitals, fear of examination, and fear of treatment (especially surgery).

An examination of the findings reveals a few general patterns. The older native American Protestant person, the individual who is economically deprived or who has much to lose if he were seriously ill, the person who avoids medical advice generally or who does not think of cancer in connection with his symptoms, and the person whose ethnic habits do not include anxiety over illness are the delayers. The younger, foreign-born person who is financially covered for a long illness, who feels he has cancer, who fears the consequences of illness, and whose symptoms are acute, tends not to delay. Younger women with breast symptoms were most prompt. In this study no control subjects were employed, no attempt was made to correlate factors nor to determine the relative strength of each factor.

Cobb, Clark, McGuire, and Howe[18] recently reached similar conclusions in a study of patients with suspected cancer. They characterized the prompt individual as one who tends to be relatively young, of high educational attainment, and more familiar with middle-class values. He has learned to seek and accept medical assistance, is informed about cancer, and becomes active under the stress created by the disease. His fear is controlled, and he utilizes it to cope with the disease. By contrast, the delaying person is older, of low educational attainment, avoids or mistrusts physicians, has faith in divine healing, and is financially inadequate. He is not aware of the consequences of his disease and is more immobile under the threat of it; he denies, avoids, or withdraws from it. He may go to quacks for treatment or avoid treatment altogether.

It should be pointed out that these "ideal types" are overlapping. There are many educated, informed, and intelligent individuals who may deliberately postpone seeking medical advice for a suspected ailment. Poverty, ignorance, and suspicion of medicine do not preclude the person's use of medical help should he see a need for it.

Aitken-Swan and Paterson[1] reported on a series of interviews with 75 men and 239 women with cancer of the breast, cervix, uteri, skin, or mouth. Relatives of these patients were also interviewed. The authors conclude that there are two "clear-cut" groups of patients: those who knew they might have cancer when they appeared at Christie Hospital in Manchester, and those who did not know. The "knowers" were further subdivided into two groups: a "positive" group, fearful of their believed condition, and a "negative" or fatalistic group tending to be older and well-adjusted to the situation they do not deny. They reported the average delay for the "knowers" was greater than that for the "don't knowers." The group with breast cancer tended to be aware of the possibility of cancer, while those with cervical, skin, or mouth cancer tended not to be aware. The authors conclude that there are two main mechanisms operating to cause delay: ignorance and fear. Fear, they say, triggered a positive reaction to seek medical care, but more often "it inhibited rational action and was the underlying factor causing delay, although this was camouflaged behind a variety of more superficial ostensible reasons." An interesting side light to this study was revealed by the 63 patients who were given the Wechsler-Bellevue Intelligence Test. No correlation was found between I. Q. and delay.

VOL.
7
1958

King and Leach[50] divided their patients into those having "good" and those having "poor" health habits using seven criteria of use of medical services by patients. They found that there was a strong relationship between past criteria for seeking medical care and the criteria used for the present illness (either cancer or some related disease). Age and education were the two factors most closely linked to health habits. Older patients and those with less schooling tended to have poor medical care habits. They concluded that not age alone but, perhaps, "conditioning in the use of doctors" is the responsible factor in delay.

Goldsen[35] found delay related to rural residence, low income, low educational attainment, and lower status in the labor force. In more rural New York State, but not in New York City, she found Catholics delayed most, Protestants next, and Jews least. However, delay among the religious groups was equally divided in New York City. Her major finding in this study confirms that of King and Leach[49] that delay or resistance to seeking medical advice for a cancer symptom is related more to the patient's *usual behavior toward any symptom than toward symptoms of cancer.*

Goldsen further found that delay is more likely to occur if the symptom is located at a site making it conspicuous to others. A hidden symptom in a person of good medical habits was found related to promptness in seeking medical aid.

There was more delay among those who have a general anxiety about cancer when that anxiety was coupled with knowledge of the danger signals of cancer. Finally, patients reticent to discuss their symptoms with others tend to delay more than do patients who do discuss their symptoms. This finding is most striking when those with good and poor health habits are compared.

Titchener and his colleagues[93] studied reasons for delay in seeking medical care among 200 surgical patients of whom 24 had cancer. It was found that 71 patients (17 with cancer) had delayed. They found that delay results from a multiplicity of psychologic factors (such as fear of punishment by surgery, fear of death, reaction formation, shame, etc.) before, during, and after a sign or symptom is recognized. Cancers in the genital area were frequently found in the delay group. No correlation was found between delay and the factors of age, sex, intelligence, or psychiatric diagnosis.

If any conclusions are to be drawn from the above analysis, they must center about the need for further research. Social background factors, economic factors, anxiety over cancer, personal negligence, attitudes toward medicine and hospitals, fatalism, reticence to discuss one's condition, defense mechanisms, superficiality of the site of the disease, and lack of awareness of the serious implications of the symptoms were all factors that in one respect or another were related to the patient's delay. In what way or ways these factors are interrelated with one another, and to other as yet unidentified factors, remains to be worked out. An understanding of the problem of patient delay in seeking medical aid for a possible symptom of cancer concerns the social, cognitive, emotional, and motivational life of the individual. It must be studied at all levels if headway is to be made toward dealing with it effectively.

Physician Delay.—Responsibility for part of the time lag between the patient's first discovery of a symptom and the first application of therapy has

been attributed to "physician delay." It has already been noted that one cause of medical delay lies in the intrinsic difficulty of diagnosing the disease even under ideal circumstances. Presurgical diagnostic errors, fluoroscopic, x-ray, and other types of "errors" may be more apparent than real due to the "quiet" nature of some neoplasms.

Empirical research into the reasons for physician delay is yet to be carried out. Considerable *clinical* attention, however, has been given to the underlying sources of medical delay in the diagnosis and treatment of cancer. There emerge four alleged reasons for delay. These are: (1) failure to examine; (2) diagnostic failure; (3) wrong treatment or advice; and (4) medical beliefs and attitudes. We shall examine each of these in turn.

Failure to examine: While diagnostic failure, as indicated below, may be due to a variety of reasons, failure to examine a patient who presents symptoms of some undetermined ailment must be viewed as a type of inadequate medical care. The most well-documented data on examinations has been reported by Howson and his associates[44] in their careful long-term study of the delay in the diagnosis of pelvic cancer. Of 1,580 patients seen in Philadelphia hospitals from 1944 to 1949, Howson found 464 in which medical delay occurred. Of this number, 224, or nearly half, had not been examined. The total not examined thus represents one patient in every 7 in this study. In most cases, the patient was also given some form of treatment. Broken down according to the site of the cancer, Table IX reveals that diagnostic examination was not done on nearly two-thirds of those with ovarian cancer, more than one-half of those with vulval cancer, and nearly one-half of those with cervical or corpus cancer.

TABLE IX. FAILURE TO EXAMINE
(Howson)

SITE	CASES DELAYED	NOT EXAMINED	PER CENT NOT EXAMINED
Fundus	108	50	46.3
Cervix	265	132	49.8
Ovary	48	31	64.6
Vulva	19	11	57.9
	440	224	50.9

Howson and Montgomery[45,46] noted 22 reasons for medical delay revealed by discussion held under the auspices of the Philadelphia Committee for the Study of Pelvic Cancer. Among these were: (1) physician reluctance to examine patients having active pelvic bleeding, (2) reluctance to do pelvic examinations upon the patient's first visit, (3) ascribing of symptoms to the menopause, (4) lack of time to conduct a complete examination, (5) fear that the patient will refuse to return if a pelvic examination is done, (6) reluctance to do pelvic examinations on virgins and nulliparous older women, (7) feeling that the safety of the patient is endangered by conducting pelvic examinations in the patient's

home or even in the physician's office, (8) use of medication without examination, and (9) inadequate equipment to do a pelvic examination. In Howson's studies almost 3 of every 10 patients seen by a physician experienced some medical delay. Failure to examine as a cause of delay in diagnosis and treatment has been reported by Collins[19] in rectal cancer and Boyce[10] in gastric cancer.

Anderson[4] found a little less than a fifth of his patients had been medically delayed. In examining the reasons for medical delay he reports, among other things, that physicians having heavy medical practices would tend to lose their practice if they gave up sufficient time to do the kind of thorough examining required to detect hidden or silent cancer.

Leach and Robbins,[53] in 1947, and Robbins, Conte, Leach, and Macdonald,[75] in 1948, reported upon the extent of both patient and physician delay in the period between the first appearance of symptoms and the diagnosis as well as the period between diagnosis and first treatment. Some inkling concerning examination practices may be gleaned from an analysis of their data. Cancer sites were divided into four types. These were: (1) breast; (2) superficial (i.e., skin, anterior mouth, anterior tongue); (3) thorough (i.e., those requiring a rather systematic examination to detect lesions detectable by visual or digital examination—floor of mouth, posterior tongue, pelvic area, distal rectum, etc.); and (4) special (i.e., those requiring examinations in which special methods or equipment would be required—lung, esophagus, stomach, kidney, bladder, etc.). In the Leach and Robbins study of 500 patients, medical delay was greatest in cancers requiring special examinations (51.1 per cent). Of those cases requiring thorough examinations 40.8 per cent delayed. Those with superficial sites were delayed 35.4 per cent, and those with breast cancer were delayed 24.4 per cent. These figures are summarized in Table X.

TABLE X. FREQUENCY OF DELAY BY TYPE OF EXAMINATION REQUIRED
(Leach and Robbins)

	TOTAL PATIENT DELAY (%)	TOTAL MEDICAL DELAY (%)	NO DELAY (%)	TOTAL CASES
Breast	40.1	24.4	42.1*	152
†Superficial	20.4	35.4	19.8	96
†Thorough	40.0	40.8	20.0	157
†Special	33.6	51.1	17.9	95
				500

*The total per cent in each of the site categories is greater than 100 per cent since patient delay includes delay in which both physician and patient were involved. Similarly, medical delay includes those cases in which patients and physicians were mutually involved.

†See Table VIII for definitions.

Where the cancer symptoms may be readily observed by the physician, there is considerably less medical delay than where the symptoms are not directly apparent. It must be assumed, therefore, that at least a part of the increase in medical delay among those requiring thorough or special examinations must be attributable to the failure to carry out these examinations or to a period of delay

between the patient's first report of symptoms and the execution of these examinations.

Leach and Robbins state: "In over 80 per cent of the patients in this study a diagnosis of cancer could have been suspected or made by the initial physician if only a careful history and physical examination had been made."

Failure to examine undoubtedly rests upon a variety of complex problems relating to the nature of the symptoms presented by the patient, the patient's medical history, the ease with which the physician can examine the area or site involved, the presence or absence of appropriate examining equipment or physical facilities, and both the patient's as well as the physician's attitudes concerning the particular examination involved. As will be indicated below, problems of modesty, finances, and various beliefs have as much to do with the failure to examine a patient as would for example, the lack of x-ray equipment to evaluate the symptoms. There is no doubt that considerable conflict arises in the practice of many physicians who, in the attempt to resolve these conflicts, undertake the risky practice of evaluating, diagnosing, and treating without appropriate study.

Diagnostic failure: It has already been pointed out that diagnostic errors are sufficiently common to have been given special attention in the field of gastric cancer. Allen[2] reported a diagnostic error of 14 per cent at Massachusetts General Hospital during the period of 1929-1930. In a later series of 832 cases seen between 1937 and 1946, Welch and Allen[101] reported that 11 per cent of the cases had a preoperative diagnosis of gastric ulcer. Of 50 inoperable gastric cancer patients seen by Maes, Boyce, and McFetridge,[58] one-fourth had given ulcer histories, and 29 had been treated for gastric ulcer. Harvey and his associates[41] at Presbyterian Hospital (New York) reported that, in the period from 1916 to 1949, of 453 patients who underwent gastric resection the diagnosis of gastric cancer was made at or after surgery in 18 per cent of the cases. Cook[23] saw 117 cases of gastric carcinoma at Brooklyn Hospital from 1935 to 1946. Of this group, 28 per cent had been told that failure of early diagnosis was due chiefly to the incorrect evaluation of symptomatic cases, that is, those cases in which a history yielding a peptic-ulcer syndrome was present.

Alvarez[3] put the problem very aptly 25 years ago in a report concerning 41 cases of gastric cancer among physicians. "In the presence of a defect in the gastric outline, the question before the physician is not, 'Can he run a slight risk of allowing this ulcer someday to become cancerous?,' but, 'Can he run the big risk of treating this possible cancer as an ulcer?' . . . It seems obvious that the only way one can hope to cure cancer of the stomach is to excise it during the stage in which it looks and behaves like a benign ulcer." Although the controversy over whether gastric ulcers may become malignant is still alive, the fact is that once the diagnosis of ulcer is made, physician and patient are concerned with the management of an ulcer and hence less alert to the possibility of cancer.

Braund and Binkley[11] reporting on 108 unselected patients with rectal cancer assert that "one-half the delay (69.4 per cent went untreated for 18.8 months after onset) was due to the failure of the physician to make the correct diagnosis." Boyce,[10] in examining some of the reasons for physician delay while patients were in the hospital, notes that part of the diagnostic difficulty resided

in the following facts: (1) a neoplasm was not found at first, and so the examination for cancer was dropped; (2) in a few instances a superficial or perfunctory investigation was made without positive results; (3) there was an overdetailed work-up of the case with repetitious study before a diagnosis was made; (4) no exploratory thoracotomy or laparatomy was done; and (5) upon failure to diagnose cancer, the patient was referred for psychiatric treatment.

Perhaps the most telling of Boyce's points, however, was his finding that "*a lack of diagnostic suspicion*" was in evidence regarding cases later proving to be lung or gastric cancer. More will be said of this under "Medical Attitudes and Beliefs."

Wrong treatment or advice: Setting aside the problem of medical delay in the period between the diagnosis of cancer and the institution of adequate therapy, there are instances in which medical delay has resulted from giving the patient either wrong or inadequate treatment or faulty advice concerning his ailment. It has already been pointed out that offering erroneous advice and treatment to a patient may sometimes result from a faulty interpretation of the symptoms. In other instances, failure to recognize the nature of the symptoms may result in the local treatment of a neoplastic condition (such as cancer of the skin). Saltzstein and Sandweiss[78] reported, in 1929, having seen patients who had received medical treatment for an average of 8½ months prior to the establishment of a diagnosis and institution of treatment. Oughterson,[67] in 1932, reported the case of a man seen by 12 physicians in 2 years before a diagnosis was established. He writes: "Surely, if the medical man, or the surgeon for that matter, cannot put an exact name to a disease; he can, at least, carry always in mind the thought of malignancy and he can refrain from any advice and any treatment that does not involve surgical exploration."

Diddle,[26] writing on genital cancer among women studied in Dallas hospitals from 1936 to 1946, states: "Physicians are often guilty of prescribing incorrect treatment and not using proper diagnostic methods. They often fall into the trap of underestimating their opponents while attempting to spare patients a formidable surgical experience. This mistake was probably often due to a lack of understanding regarding the pathology of the disease."

Clare[17] on breast cancer states as follows: "In repeated studies it has been shown that the *first* physician to see the patient with breast cancer gives the wrong advice in almost 25 per cent of the cases, his advice being to 'Forget it' or 'Let's watch it.' "

Regarding the practice of extended observation, Levin[53] notes: "We can no longer permit ourselves the lazy luxury of telling patients, 'Let's watch this lump for a while and see what happens' . . . We must recognize that when dealing with cancer the out-moded policy of watchful waiting virtually constitutes a death sentence."

Howson and Montgomery[45] detailed the types of treatment and advice given patients with pelvic cancer. Half of those given treatment received oral medication or some form of injection. In some cases, local treatment of the cervix, douche, diathermy, and rest were prescribed. In other instances, the patient was advised that the condition was a manifestation of the menopause or

VOL 7 195

that examination could be deferred either until bleeding ceased or recurred. In some instances hormone therapy was used in lieu of establishing a diagnosis. Boyce[10] reports that some patients were treated for a variety of other ailments at the clinic upon the presentation of cancer symptoms. He also found a tendency to diagnose and treat patients for psychosomatic disturbances when they reported the vague symptoms associated with cancer.

Pack and Gallo[68] in their classic study of 1,000 patients with cancer reported that of the 250 patients criticizing physicians for delay in treatment, 161 patients, or 46 per cent, had been given the wrong treatment, and of this number, only 35 patients (22.4 per cent) reported for treatment of cancer within the next month. An additional 38 patients, or 10.9 per cent, received wrong medical advice and no treatment. Of this group only 6 patients came for treatment within a month. However, of the 104 patients who received *neither advice nor treatment* from the physician, 92 persons, or 88.5 per cent, did report to the cancer hospital within a month. It would appear that if a person approaches a physician concerning a medical complaint and receives neither advice nor treatment, he is more likely to seek out a more appropriate source of medical care for his condition than if he receives either inadequate advice or treatment. In the latter case, the individual may feel secure that his condition is under control. He will not discontinue the medical care being received or turn to another medical facility.

Medical attitudes and beliefs: We have already seen that the patient is greatly influenced by previous habits and attitudes when confronted with the symptoms of cancer. Attitudes and convictions precede action for they dispose the individual to respond in a particular way to a given set of circumstances. Physicians are no less influenced by such response dispositions either in regard to their own health or in respect to a multitude of medical problems. Alvarez,[3] Byrd,[16] and Robbins, Macdonald, and Pack[74] have documented the fact that the delay period in the diagnosis and treatment of physicians with cancer in which the physician-patient is partially responsible is no less than is the case among lay patients. There is little doubt that the type of psychologic and attitudinal factors found to be responsible for delay among patients at large are also at work among physicians with cancer.

Characteristic medical attitudes toward cancer have not been documented with empirical study. Most of what is known is impressionistic or are interpretations of data on the length of the medical delay period. Most agree, however, that attitudes toward cancer and cancer patients to a considerable extent determine the physician's course of action with regard to the disease itself, and to patients with the disease. Two major attitudinal factors may be discerned: (1) an insensitivity or lack of heightened awareness to the possibility of cancer, and (2) excessive pessimism over the generally negative consequences once cancer is established.

Insensitivity: Maes, Boyce, and McFetridge[58] remarked nearly 25 years ago in their study of gastric carcinoma: "If we emerged from this study with no other idea, we did gather from it that the only safe mode of medical practice is to consider every patient as an exception to the rule on the ground that . . . while averages are quite true of the population at large, they are entirely untrue of the

patient as an individual. Granted that in some cases early symptoms seem to be lacking, in the majority of cases the trail is there—the physician simply fails to find it or having found it fails to follow it because it is not a broad and straight highway."

Howson and Montgomery,[45] in reviewing the problems associated with the diagnosis of pelvic cancer, have pointed out the tendency of some physicians to regard or assume bleeding to be due to polyps, vaginitis, or to the menopause without consideration of malignancy as a possible cause. Sheffey[81] reported that delay in typical premenopausal bleeding was only one-half as great as in postmenopausal bleeding. Miller,[62] in discussing the control of genital cancer among women, feels that patients do not consult physicians for physical examinations even in the presence of disturbing symptoms because they are embarrassed by the indifference or inefficiency of physicians. Allen,[2] remarking on the ulcer-cancer problem, suggests that the proper attitude for the physician to adopt is that the appearance of "ulcer symptoms" in the patient past the age of 50 should be regarded as malignant unless proved benign. Clare[17] examining the cause of physician delay in diagnosis writes: "A high index of suspicion and the thorough investigation on the part of the *first* physician to see the patient with cancer is the *sine qua non* of early diagnosis."

It would seem from these statements that part of the fault in failing to diagnose cancer lies in the physician's failure to bear the possibility of cancer in mind when confronted with the vague symptoms suggestive of numerous ailments including cancer. Inasmuch as early cancer often requires extensive medical search to be detected, the tendency to ascribe symptoms to some other ailment and to treat the symptoms as some other disease partly reflects inadequate alertness on the part of many physicians. Heightened sensitivity to the possible meaning of vague symptoms may serve to reduce the prolonged period of inadequate observations and treatments that characterizes some of the current medical handling of cancer.

Pessimism: It is possible that even insensitivity to early cancer signs may be attributed to a more general attitude on the part of physicians—namely a pessimistic attitude toward prognosis. Levin[55] wrote, in 1947: "It is difficult to understand how a few of our colleagues still maintain the pessimistic, medieval concept that cancer is a universally fatal disease and even succeed in foistering that opinion upon unsuspecting medical students and interns."

Miller,[62] in 1948, directing his remarks at general practitioners, noted that pessimism and apathy continued to exist among physicians despite the fact that hope was good for the control of uterine cancer. Trawick,[95] in observing medical attitudes toward cancer from a psychiatric point of view, suggests that physicians may regard cancer as a dread disease because of unconscious attitudes that cancer is unreal. The physician's attempt to protect patients from cancer, he states, increases the feeling of dread and makes for a more general social neuroticism. Boyce[8] reports that Guiss attributes the belief among physicians that gastric cancer is hopeless from the outset, and an unjustifiable optimism over x-ray reports, as two of the main causes of delay in diagnosing and treating gastric cancer. Boyce[8] himself, after reviewing the problem of gastric cancer states as

follows: "My own admittedly pessimistic opinion is that we shall remain about where we are in the detection of early, silent cancer of the stomach until some serologic test is devised that will do for latent malignant disease of the internal organs what the Wassermann test has done for syphilis.*

If physicians' attitudes toward cancer reflect feelings of dread, apathy, or pessimism regarding cancer, they will be blind to or reject its symptoms. In the search for early diagnosis and early treatment two essential steps are necessary at the present time to raise substantially the survival rates for cancer: (1) the release of physicians from essentially negative attitudes toward the cure of cancer, and (2) the positive urgent steps taken by a physician to bring his patient under the earliest possible adequate therapy.†

An entirely different attitudinal problem has been reported by Miller[61] in regard to corpus carcinoma. Here he finds that delay is due to "The fallacious belief that the prognosis is invariably good . . . The tendency to compare results with other less amenable carcinoma." He reports an average of 4 months' delay from first examination to treatment.

VOL.
7
1958

An understanding of physicians' attitudes toward the meaning of cancer, and their own practices with regard to its detection, diagnosis, and treatment is essential if an all-out program to reduce the medical lag in the diagnosis and therapy of cancer is to be effective. Badly needed at the present time, therefore, are studies of medical attitudes and practices regarding the handling of precancerous lesions, "benign" conditions, and early symptomatic cancer.

DISCUSSION

The foregoing analysis has examined the difficulties in understanding the factors contributing to delay in the diagnosis and treatment of cancer. First and foremost, we have indicated that the concept of delay has not undergone rigorous definition. Little attempt has been made to clarify the significance of the time intervals interspersing the continuum between biologic onset of disease and application of adequate therapy. We have indicated the distinction that is required between unavoidable and avoidable delay. Only in the latter case may we equate delay with procrastination. The fundamental question of the early recognition of cancer on the part of the physician has, unfortunately, led to the criticism of medical diagnostic procedures and has not taken the constructive step of seeking for physiologic or sensorial changes in patients during the earliest

---

*Recently new techniques of detection have been introduced that may improve the pessimistic outlook of some physicians in regard to gastric cancer. The cancer detection centers of the New York City Department of Health are employing the tubeless method utilizing the dye azure A for the detection of achlorhydria and hypochlorhydria. Those found below normal in acid content are then routinely given a gastrointestinal series. Wangensteen[100] and others have pointed out that hope for improving the cure rate for gastric cancer at the present time rests on positive approaches to detection in the asymptomatic phase. The insidiousness of gastric carcinoma should not be permitted to reduce the vigilance of the physician nor to discourage him for persistent and active exploration of seemingly minor gastric symptoms.

†Another form of attitudinal barrier to diagnosis is reflected in the statement of Walters[99] that some internists feel that submission of patients for exploratory surgery under conditions of benign symptoms, or of gastric ulcer, leads to high surgical mortality rates since inexperienced surgeons may be given these cases. Since exploratory surgery is an important diagnostic tool, it should not be considered beneath the dignity of more experienced surgeons to perform such operations.

"asymptomatic" phase. Carefully controlled studies of the natural history of neoplastic disease are required to determine whether such changes may be revealed in individuals who later prove to have cancer.

Review of the literature dealing with patient delay suggests that any arbitrary permissive time interval between the alleged onset of symptoms and first contact with a physician is inadequate since it relies heavily upon the notoriously unreliable report of patients, most of whom are in the throes of emotional reactions to the diagnosis of cancer. Moreover, such arbitrary temporal criteria fail to distinguish between those who put off seeking medical aid for persistent mild symptoms and those who seek immediate medical advice at the onset of severe symptoms. The former individual is usually classified as having delayed, though his symptoms be unprovocative, while the latter individual is listed as prompt, though the cause of his promptness is his inability to function because of the severity of the symptoms. The vast majority of these studies, therefore, may be called into serious question since they neither provide for individual differences in the basic reasons for promptness and delay, nor for individual differences regarding the site, symptomatology, and severity of the disease and the symptomatic onset. We now require systematic attempts to develop, classify, and account for the types and characteristics of patient delay. Far more intensive interviews of patients are required that will leave no question concerning the duration of the time intervals between first consciousness of symptoms and first contact with a physician. Moreover, there must be included fundamental study designs permitting the testing of specific hypotheses with adequate control groups. For this purpose, four types of populations are required: (1) patients having been diagnosed with proved cancer, (2) control patients seeking medical care for the evaluation and treatment of any ailment no matter how minor, (3) persons requesting medical service at cancer detection centers as controls for the cancer group, and (4) a general population sample among whom the vast majority will be asymptomatic and among whom there will be representative distribution of ailments including cancer.

One basic problem that might be attacked using such a fourfold population would be the identification of as yet unspecified feelings and sensations, concomitant with early cancer, but not yet recognized as symptoms.

A second and equally significant research step that should be taken with the specified populations is to determine attitudinal foundations and behavioral expressions of reaction to illnesses ranging from the most vague symptomatology to the most clear-cut syndromes. Attitudes toward cancer and other forms of fatal diseases as well as toward seemingly innocuous ailments undoubtedly have major roles to play in determining behavior in the face of cancer symptoms in both patient and physician. Responses to these symptoms may range from inaction to instantaneous request for medical aid. Progress in bringing the potential cancer patient to medical attention at the most propitious moment when surgery, irradiation, or chemotherapy is most effective, demands a far clearer understanding of the basis upon which the individual decides to seek medical care.

We have documented the fact that a variety of iatrogenic delays occur among cancer patients. Up to the present time, no empirical studies of this problem

have been undertaken. Inasmuch as the 5-year survival rate for some forms of cancer is, at present, partially dependent upon the point in the disease at which active therapy is begun, it is imperative to study all factors that contribute to delay in the inauguration of such therapy.* Physician delay is such a factor. Investigations of the factors contributing to physician delay should begin with the general practitioner. Four major considerations should form the basis of such investigations: (1) attitudes of the general practitioner toward cancer and other forms of fatal disease, (2) the history of cancer in the family of the physician, (3) the incidence of cancer in the physician's practice, and (4) his views concerning the prognosis of cancer related to the nature of advice given and the rapidity of referral for therapy.

As has been noted, pessimism regarding the prognosis of cancer is widespread and may contribute greatly to the total period of delay between onset and start of treatment. The problem of diagnosis of cancer is, in some instances, extremely difficult. The recognition of the disease in general practice depends upon the diagnostic acumen and clinical perspicacity of the physician. Almost no empirical studies have been reported seeking to determine the nature of general practice relative to cancer detection. The physician's views and practices about cancer may aid or deter the recognition or detection of cancer and would be a necessary step in determining the course that should be taken by professional education. What deters adequate examinations of a patient? What is the routine procedure relative to pelvic or rectal examinations? Is treatment undertaken without establishment of diagnosis? To what extent are routine laboratory tests recommended (Papanicolaou smear, blood culture, biopsies, etc.)? What factors determine referral to cancer diagnostic centers? To what extent are patients in whom cancer is suspected followed by the physician until diagnosis or adequate therapy is undertaken?

Finally, studies are needed of survival experience when the factor of delay is controlled. They will give us much valuable knowledge of the efficacy of early therapy and the sites and types of cancer patients which should be singled out for special cancer education programs. Perhaps, the study of stable populations in prepaid, comprehensive medical care plans such as the Health Insurance Plan of Greater New York might provide significant information concerning the effects of removing the financial obstacles to early diagnosis and treatment and of the effects on survival rates of the possible reduction in delay.

From the foregoing, we are led to the conclusion that carefully prepared investigations should be carried out, seeking the attitudinal and behavioral facets of cancer, fatal disease, and health of physicians as well as the lay public. To influence the behavior of persons with early cancer, precancerous lesions, or suspicions of cancer or other unevaluated complaints, we need to learn much more concerning the way illness, symptoms, and health maintenance are ap-

*The use of 5-year survival rates is also affected by the delay problem. Survival may "increase" or "decrease" depending upon the point from which one starts. Thus, even if early diagnosis did not affect the course of the disease, apparent survivals would increase if reckoned from the time earlier diagnosis was made and presumably earlier treatment instituted.

VOL.
7
1958

proached. Patient and physician views, attitudes, and behaviors regarding cancer and other diseases may lead us to a firmer basis for public and professional education.

REFERENCES

1. Aitken-Swan, J., and Paterson, R.: The Cancer Patient Delay in Seeking Advice, Brit. M. J., p. 623, 1955.
2. Allen, A. W.: Significance of Gastric Ulcer and Cancer of the Stomach, Rhode Island Med. J. **34**:425, 1951.
3. Alvarez, W. C.: How Early Do Physicians Diagnose Cancer of the Stomach in Themselves? J.A.M.A. **97**:77, 1931.
4. Anderson, D. P.: The Cancer Problem From the Standpoint of the Practicing Physician in the Small Community, Minnesota Med. **32**:65, 1949.
5. Anonymous: Diagnosis of Cancer of the Prostate, Cancer Bull. VII, No. 1, 2, 1955.
6. Anonymous: Why Cancer Patients Delay Seeking Diagnosis and Treatment, J. Michigan M. Soc. **492**:1270, 1950.
7. Bates, F. E., and Ariel, I. M.: Delay in Treatment of Cancer, Illinois M. J. **94**:361, 1948.
8. Boyce, F. F.: Carcinoma of Stomach, J.A.M.A. **151**:15, 1953.
9. Boyce, F. F.: Carcinoma of Stomach in Large General Hospitals; Comparative Study of Two Series of Surgical Cases From Charity Hospital of Louisiana at New Orleans, J.A.M.A. **117**:1670, 1941.
10. Boyce, F. F.: Certain Preventable Errors in the Diagnosis and Management of Carcinoma of the Stomach and the Lung, Ann. Surg. **137**:864, 1953.
11. Braund, R. R., and Binkley, G. E.: A Plea for the Earlier Diagnosis of Rectal Cancer; Analysis of 108 Clinic Patients, New York J. Med. **42**:33, 1942.
12. Brindley, G. V.: Carcinoma of the Rectum. Factors Affecting Its Cure, J.A.M.A. **108**:37, 1937.
13. Buckner, G. D.: You, Your Family Doctor, and Cancer, Nassau Med. News **23**:4, 1950.
14. Burdick, D., and Chanatry, F.: Central New York Surgical Society, Surgery on Breast Carcinoma, 1920 to 1952, Cancer **7**:47, 1954.
15. Burke, M.: Cancer Mortality in the Wisconsin General Hospital, Wisconsin M. J. **35**:709, 1936.
16. Byrd, B. F.: Fatal Pause in Diagnosis of Neoplastic Disease in Physician-Patient, J.A.M.A. **147**:1219, 1951.
17. Clare, D. W.: The Early Diagnosis of Cancer, Pennsylvania M. J. **55**:143, 1952.
18. Cobb, B., Clark, R. L., Jr., McGuire, C., and Howe, C. D.: Patient-Responsible Delay in Treatment of Cancer, Cancer **7**:920, 1954.
19. Collins, R. M.: Additional Data on Uterine Cancer, J. Iowa M. Soc. **24**:71, 1934.
20. Commission on Cancer: Report of the Commission on Cancer, Atlantic M. J. **27**:891, Sept., 1924.
21. Commission on Cancer: Report of the Commission on Cancer, Pennsylvania M. J. **15**:529, 1911-12.
22. Conte, A. J.: Causes for Delay in the Treatment of Cancer, Westchester M. Bull. **17**:11, 1949.
23. Cook, A. W.: Factors Favoring and Hindering Early Diagnosis of Cancer of the Stomach, Brooklyn Hosp. J. **6**:67, 1948.
24. Cooper, W. A.: The Problem of Gastric Cancer, J.A.M.A. **116**:2125, 1941.
25. DeLawter, D. E.: Culpability for the Delay in the Management of Cancer, M. Ann. District of Columbia **17**:342, 1948.
26. Diddle, A. W.: Genital Cancer Among Women, Factors Affecting Its Control in an Urban Population, Am. J. Obst. & Gynec. **59**:1373, 1950.
27. Donlon, C.: The Family Doctor—Time—and Cancer, J. Am. M. Women's A. **5**:151, 1950.
28. Drellich, M. G., Bieber, I., and Sutherland, A. M.: The Psychological Impact of Cancer and Cancer Surgery. VI. Adaptation to Hysterectomy, Cancer **9**:1120, 1956.
29. Engel, G. C.: Diagnostic Delay in Gastric Carcinoma, Pennsylvania M. J. **48**:126, 1944.
30. Ewing, J.: The Prevention of Cancer in Treatment of Cancer and Allied Diseases (Edited by George T. Pack and Edward T. Livingston), New York, 1940, ed. 3, Paul B. Hoeber, Inc.
31. Farr, C. E.: Delay in the Treatment of Cancer, Am. J. M. Sc. **157**:34, 1919.
32. Finsterer, H.: Malignant Degeneration of Gastric Ulcer, Proc. Roy. Soc. Med. **32**:183, 1939.
33. Gallo, J. S., and Pack, G. T.: Early Diagnosis and Treatment of Cancer, Public Health Nursing **38**:538, 1946.
34. Gibson, C. L.: Cancer Surgery, Am. J. Surg. **29**:374, 1915.

35. Goldsen, R. K.: Factors Related to Delay in Seeking Diagnosis for the Danger Signals of Cancer, Ithaca, N. Y.: Social Science Research Center, Cornell University, 1953, 111 pp.
36. Gray, D. B., and Ward, G. E.: Delay in Diagnosis of Carcinoma of the Stomach, Am. J. Surg. **83**:524, 1952.
37. Gray, H. K., Balfour, D. C., and Kirklin, B. R.: Cancer of the Stomach, Am. J. Cancer **22**:249, 1934.
38. Griswold, M. H., Cutler, S. J., and Eisenberg, H.: Improvement in Cancer Survival Rates, New England J. Med. **254**:1062, 1956.
39. Guiss, L. W.: Collective Review; End Results for Gastric Cancer, 2,891 Cases, Internat. Abstr. Surg. **93**:313, 1951.
40. Harms, C. R., Plaut, J. A., and Oughterson, A. W.: Delay in the Treatment of Cancer, J.A.M.A. **121**:335, 1943.
41. Harvey, H. D., Titherington, J. B., Stout, A. P., and St. John, F. B.: Gastric Carcinoma; Experiences From 1916 to 1949 and Present Concepts, Cancer **4**:717, 1951.
42. Howson, J. Y.: Observations on the Delay Period in the Diagnosis of Pelvic Cancer, M. Clin. North America **32**:1573, 1948.
43. Howson, J. Y.: Pelvic Cancer Delay. The Organization and Observation of the Philadelphia Committee for the Study of Pelvic Cancer, Am. J. Obst. & Gynec. **55**:538, 1948.
44. Howson, J. Y.: The Procedures and Results of the Philadelphia Committee for the Study of Pelvic Cancer, Wisconsin M. J. **49**:215, 1950.
45. Howson, J. Y., and Montgomery, T. L.: An Attack Upon the Delay Period in Diagnosis of Pelvic Cancer, Tr. Am. A. Obst. & Gynec., **59**:97, 1948.
46. Howson, J. Y., and Montgomery, T. L.: An Attack Upon the Delay Period in Diagnosis of Pelvic Cancer, Am. J. Obst. & Gynec. **57**:1098, 1949.
47. Humphrey, A. A.: Program for Early Detection of Cancer, J. Michigan M. Soc. **49**:289, 1950.
48. Jemerin, E. E., and Colp, R.: Gastric Carcinoma, Surg., Obst. & Gynec. **95**:99, 1952.
49. King, R. A., and Leach, J. E.: Factors Contributing to Delay by Patients in Seeking Medical Care, Cancer **3**:571, 1950.
50. King, R. A., and Leach, J. E.: Habits of Medical Care, Cancer **4**:221, 1951.
51. Lampert, E. G., Waugh, J. M., and Dockert, M. B.: The Incidence of Malignancy in Gastric Ulcers Believed Preoperatively to be Benign, Surg., Gynec. & Obst. **91**:673, 1950.
52. Lang, W. R., Sheffey, L. C., and Farrel, D. M.: Delay Period in Diagnosis of Carcinoma in Situ of the Uterine Cervix, Obst. & Gynec. **4**:572, 1954.
53. Leach, J. E., and Robbins, G. F.: Delay in the Diagnosis of Cancer, J.A.M.A. **135**:5, 1947.
54. L'Esperance, E. S.: The Early Diagnosis of Cancer in Women, Bull. New York Acad. Med. **26**:703, 1950.
55. Levin, A. G.: Certain Factors Influencing Cancer Curability, Southern M. J. **40**:259, 1947.
56. Macdonald, E. J.: Changing Reasons for Cancer Patient Delay, Connecticut Health Bull. **61**:99, 1947.
57. MacFarlane, C.: Evaluation of Cancer Detection Program, Pennsylvania M. J. **55**:659, 1952.
58. Maes, U., Boyce, F. F., and McFetridge, E. M.: The Tragedy of Gastric Carcinoma, Ann. Surg. **98**:619, 1933.
59. Marshall, S. F., and Welch, M. L.: Results of Surgical Treatment for Gastric Ulcer, J.A.M.A. **136**:748, 1948.
60. McKinnon, N. E.: Cancer Mortality, Surg., Obst. & Gynec. **94**:173, 1952.
61. Miller, N. F.: Carcinoma of the Body of the Uterus, Am. J. Obst. & Gynec. **40**:791, 1940.
62. Miller, N. F.: Carcinoma of the Uterus, Ovary and Tube, J.A.M.A. **136**:163, 1948.
63. Miller, N. F.: Some Data on Uterine Cancer, J. Iowa M. Soc. **23**:132, 1933.
64. Miller, N. F., and Henderson, C. W.: Corpus Carcinoma, Am. J. Obst. & Gynec. **52**:894, 1946.
65. Morrow, A. S.: The Physician's Responsibility in Cancer Control, New York Med. **2**:25, 1946.
66. Moynihan, B.: Cancer of the Stomach, Practitioner **121**:137, 1928.
67. Oughterson, A. W.: End Results in the Treatment of Carcinoma of the Stomach, Yale J. Biol. & Med. **4**:711, 1932.
68. Pack, G. T., and Gallo, J. S.: The Culpability for Delay in the Treatment of Cancer, Am. J. Cancer **33**:443, 1938.
69. Phillips, A. J.: Public Opinion on Cancer in Canada, Canad. M. A. J. **73**:639, 1955.
70. Pratt, J. D.: Bleeding Associated With the Menopause, J.A.M.A. **135**:562, 1947.
71. Reimann, S. P., and Safford, F. H.: Avoidable Delay in the Treatment of Carcinoma, Am. J. Cancer **15**:1338, 1931.

VOL.
7
1958

72. Reimann, S. P., and Safford, F. H.: Statistical Study of the Influence of the Education Campaign on the Interval Between Discovery and Consultation in Mammary Carcinoma, Report of the International Conference on Cancer, London 562, 1928.
73. Resnikoff, M.: Motivational Factors in Persons Attending a Cancer Detection Center, Cancer **8**:454, 1955.
74. Robbins, G. F., Macdonald, M. C., and Pack, G. T.: Delay in the Diagnosis and Treatment of Physicians With Cancer, Cancer **6**:624. 1953.
75. Robbins, G. F., Conte, A. J., Leach, J. E., and Macdonald, M. C.: Delay in Diagnosis and Treatment of Cancer, J.A.M.A. **143**:346, 1950.
76. Rosser, C., and Kerr, J. G.: Cancer of the Rectum in Young Persons, J.A.M.A. **113**:1192, 1939.
77. St. John, F. B., Swenson, P. C., and Harvey, H. D.: Experiment in the Early Diagnosis of Gastric Carcinoma, Ann. Surg. **119**:225, 1944.
78. Saltzstein, H. C., and Sandweiss, D. J.: The Average Treatment of Cancer II Report of the Study of Deaths From Cancer in Detroit During Six Months From May 15 to November 15, 1927, Arch. Surg. **18**:2176, 1929.
79. Shands, H. C., Finesinger, J. E., Cobb, S., and Abrams, R. D.: Psychological Mechanisms in Patients With Cancer, Cancer **4**:1159, 1951.
80. Shedden, W. M.: Carcinoma of the Rectum and Sigmoid, Am. J. Surg. **44**:481, 1939.
81. Sheffey, L. C.: The Delay Period in the Diagnosis of Pelvic Malignancy, Obst. & Gynec. **1**:554, 1953.
82. Sheffey, L. C.: Discussion of Miller, N. F.: Carcinoma of the Body of the Uterus, Am. J. Obst. & Gynec. **40**:791, 1940.
83. Shimkin, M. B., Griswold, M. H., and Cutler, S. J.: Survival in Untreated and Treated Cancer, Ann. Int. Med. **45**:255, 1956.
84. Simmons, C. C., and Daland, E. M.: Cancer: Delay in Surgical Treatment, Boston M. & S. J. **190**:15, 1924.
85. Simmons, C. C., and Daland, E. M.: Cancer: Factors Entering Into the Delay in its Surgical Treatment, Boston M. & S. J. **183**:298, 1920.
86. Simmons, C. C., Daland, E. M., and Wallace, R. H.: Delay in the Treatment of Cancer, New England J. Med. **208**:1097, 1933.
87. State, D., Moore, G. E., Wangensteen, O. H.: Carcinoma of Stomach; 10-Year Survey 1936-1946, Inclusive of Early and Late Results of Surgical Treatment at University of Minnesota Hospital, J.A.M.A. **135**:262, 1947.
88. Stearns, H. C.: Discussion of Diddle, A. W.: Genital Cancer Among Women, Factors Affecting Its Control in an Urban Population, Am. J. Obst. & Gynec. **59**:1373, 1950.
89. Steiner, P. E.: Early Cancer (Editorial), Cancer Res. **16**:277, 1956.
90. Sutherland, A. M., Orbach, C. E., Dyk, R. B., and Bard, M.: The Psychological Impact of Cancer and Cancer Surgery, Cancer **5**:857, 1952.
91. Taylor, H. S.: Factors Associated With Culpability or Non-culpability in Delaying Medical Care for Cancer, Thesis, G. W. Brown School of Social Work, Washington University, 1946.
92. Taylor, R. S., Snegireff, L. S., and Gordon, J. E.: Cervical Cancer as a Mass Disease, Am. J. M. Sc. **229**:317, 1955.
93. Titchener, J. L., Zwerling, I., Gottschalk, L., Levine, M., Culbertson, W., Cohen, S., and Silver, H.: Problem of Delay in Seeking Surgical Care, J.A.M.A. **160**:1187, 1956.
94. Todd, O. E.: Cancer of the Cervix. Time Wasted, J. Michigan M. Soc. **40**:191, 1941.
95. Trawick, J. D.: The Psychiatrist and the Cancer Patient, Dis. Nerv. System **11**:278, 1950.
96. Wainwright, J. M.: The Reduction of Cancer Mortality, New York J. Med. **94**:1165, 1911.
97. Walter, J., and Atkinson, E. D.: Early Cancer Detection and Education: A Pilot Trial, Brit. M. J., p. 627, 1955.
98. Walters, W., Gray, H. K., and Priestly, J. T.: Malignant Lesions of the Stomach; Importance of Early Treatment and End Results, J.A.M.A. **117**:1675, 1941.
99. Walters, W.: Gastric Ulcer, Carcinomatous Ulcer or Ulcerating Carcinoma? Ann. Surg. **115**:521, 1942.
100. Wangensteen, O. H.: The Problem of Gastric Cancer, J.A.M.A., **134**:1161, 1947.
101. Welch, C. E., and Allen, A. W.: Carcinoma of the Stomach, New England J. Med. **238**:583, 1948.
102. Wiggins, W. S., Hilfinger, M. F., and Berman, L. G.: Delay in Cancer Diagnosis, New York J. Med. **51**:626, 1951.
103. Youngman, N. V.: Psychological Aspects of the Early Diagnosis of Cancer, M. J. Australia **34**:581, 1947.

VOL 7 195

PSYCHOSOCIAL FACTORS IN HOME CARE PROGRAMS OF LONG-TERM RESPIRATOR PATIENTS

CLAIRE STILL, M.S.S.W.,* AND HAROLD N. NEU, M.D., F.A.C.P.**

OMAHA, NEB.

From the Poliomyelitis Respiratory and Rehabilitation Center, Creighton Memorial St. Joseph's Hospital, Omaha, Nebraska, aided by an annual grant from the National Foundation for Infantile Paralysis, Inc.

(Received for publication Aug. 15, 1957.)

VOL. 7 1958

IN AN earlier article† some of the problems in the medical management of the long-term respirator patient were discussed. In this article, we shall focus our attention on the psychosocial adjustment of some of these patients at home after their discharge from a respirator center. Such patients represent problems in chronic illness with all the physical, mental, and social components such cases present.

Medical social work is provided in the respirator centers for the purpose of assisting the patients to meet the numerous social problems connected with such illness.

We will not attempt to discuss here the manner in which this function is carried out, but rather we will endeavor to evaluate the results of this preliminary activity in the Center as demonstrated by the adjustment in the home after discharge plans are completed.

The Respiratory and Rehabilitation Center located in a private general hospital in Omaha consists of 25 beds. All of the services involved in a rehabilitation center including medical evaluation, nursing service, physical therapy, occupational therapy, vocational counseling, medical social service, and speech and hearing therapy are available.

Medical social service has been available for the Center since April, 1953, when the Center was established. The methods of referral to social service include "one hundred per cent review," or routine referral to the social worker for exploration of possible existence of social problems of all patients admitted to the center. In addition, patients are referred by physicians or other staff members when special problems arise.

The social worker aids in the selection of patients admitted to the Center and helps with the solution of medical social problems arising while they are in

*Director of Social Service, Respiratory and Rehabilitation Center, Creighton Memorial St. Joseph's Hospital.

**Professor of Medicine, Creighton University School of Medicine, and Medical Director, Respiratory and Rehabilitation Center, Creighton Memorial St. Joseph's Hospital.

†Neu, Harold N., and Ladwig, Harold A.: Medical Management of the Long-term Respirator Patient, J. CHRON. DIS. 1:160, 1955.

the Center, and again when plans are being made for their discharge. This includes evaluation of the patient's attitude toward his illness as well as the attitude of the family toward the disability.

SCOPE

The material selected for this study was based on questionnaires sent to all the polio patients who had been discharged from the Center between July 6, 1953, the date the Center opened, and June 30, 1955, approximately a two-year period. During this time there was a total of 78 patients discharged from the Center, but of this number, 8 were nonpolio patients. Two died, one of whom had been admitted to the Center twice, and 13 of the admissions were readmissions, leaving a total of 54 patients to whom questionnaires were mailed. Of these 54, replies were received from 35 of the patients. Of the 19 patients who did not reply, 3 were respirator or postrespirator patients, one of whom required no equipment at home and one of whom went to a nursing home to use a rocking bed regularly and with a portable chest respirator available for stand-by use. The third respirator patient is a quadriplegic at home with rocking bed, console respirator, portable respirator, and suction machine. A full-time attendant lives in the home. The other 16 patients who did not reply were all nonrespirator patients.

MEDICAL STATUS

It must be kept in mind that these respiratory patients were admitted to the Center with vital capacities varying from less than 100 c.c. to approximately 900 c.c. All had quadriplegic involvement, and in most of them some cranial nerve involvement existed at the time of their original illness. The problem therefore involved not only impaired pulmonary capacity but also total rehabilitation.

RESPIRATOR STATUS

Before considering their psychosocial adjustment at home, it is necessary to explain the types of patients included in this study. Patients with severe

TABLE I. RESPIRATORY AID STATUS OF PATIENTS

NUMBER OF PIECES	NUMBER PER PATIENT	TYPE OF EQUIPMENT	NUMBER OF PATIENTS
12	4	Rocking bed, portable respirator, console respirator, and suction machine	3
6	3	Rocking bed, portable respirator, and suction machine	2
3	3	Rocking bed, portable respirator, and console respirator	1
12	2	Rocking bed and portable respirator	6
2	2	Rocking bed and console respirator	1
7	1	Rocking bed only	7
1	1	Portable respirator only	1
Total: 43			21

paralysis of the muscles of respiration as a result of polio frequently are in need of respiratory aid. Those with severe paralysis frequently require more than one piece of respirator equipment. Those with less severe paralysis may require equipment or aid for only a few hours per day. Of the 35 patients who replied to the questionnaire, 21 had at least one piece of equipment at home.

The total amount of equipment involved in this study was distributed as indicated in Table II. It should be recognized that this represents a capital investment of nearly $50,000 in equipment.

TABLE II. DISTRIBUTION OF EQUIPMENT

TYPE OF EQUIPMENT	NUMBER OF PIECES
Rocking beds	20
Portable respirators	13
Console respirators	5
Suction machines	5
Total	43

VOL.
7
1958

Five of the patients were tracheotomy patients. Three of these had four pieces of equipment plus auxiliary generators to be used in case of power failure and two had rocking beds, portable respirators, and suction equipment at home. One patient without tracheotomy had a rocking bed and portable and console respirators. Six patients had rocking beds and portable respirators. One patient had a rocking bed and console respirator. This patient is unique in that she is the one patient who does not have a wheel chair and who, it is known, leaves her home on only rare occasions although she is 21 years of age and has more potential than some of the other patients. In place of a wheel chair she has a reclining chair. Seven patients have rocking beds only. One patient who lives in Wyoming, some distance from the Center, gets along without assistance but has a portable respirator in her home to be used in the event of overfatigue or acute upper respiratory infection. The other 14 patients are at home without respiratory aid either because the respiratory involvement was mild, never requiring mechanical respiratory aid, or because they no longer require such assistance. As mentioned before, 34 of the patients have their own wheel chairs.

ATTENDANT

In addition to requiring respirator equipment at home, many of the patients and their families had to have additional help from outside the family. The table below shows the type of attendant required for both respirator and non-respirator patients.

Of the 21 people using respirator equipment, 8 were entirely cared for by some member of their families, and 9 had to supplement the care provided by the family with outside help which in some instances was for the purpose of providing physical therapy only but in other cases was to provide general home nursing care. One patient using a rocking bed did not answer this question but when she left the Center it was understood that her mother, who was living with them,

TABLE III.

ATTENDANT	NUMBER OF PATIENTS		TOTAL
	RESPIRATOR	NONRESPIRATOR	
Family	8	7	15
Outsider	9	—	9
None	—	4	4
Not answered	2	2	4
Nursing home	2	1	3
Total	21	14	35

would probably care for her. Another of the patients using a rocking bed and portable respirator did not state who her attendant was, but again, when she left the Center, it was understood that her mother who was teaching school would care for her. Two of the respirator patients went to a nursing home and so were cared for by others than their family. The third patient who was in the nursing home did not require the use of any type of respirator equipment.

The social characteristics of the group under study are as follows. Of the 35 who replied to the questionnaire, 20 were women, and 15 were men.

The group ranged in age from 8 years to 45 years, with the largest number, 11, being in the five-year age group from 25 to 29 years, and the next largest group, 8, between the ages of 15 and 19. Table IV below gives the complete distribution:

TABLE IV. AGE DISTRIBUTION

AGE IN YEARS	NUMBER OF PATIENTS
40–45	3
35–39	1
30–34	4
25–29	11
20–24	6
15–19	8
10–14	1
5– 9	1
Total	35

Their marital status was as follows. Seventeen were single. The other 18 were married, widowed, or separated. All of the latter patients had children ranging in number from nine to one each.

Since the Respirator Center is one of fifteen such centers in the United States, the area from which the patients come is of interest. Ten states were represented with the majority, or 19, coming from Nebraska. Of these, 7 were from Omaha. Arkansas and Iowa had 3 each, Michigan, Minnesota, and Oklahoma 2 each, and four other states, Colorado, Kansas, South Dakota, and Wyoming, 1 each.

Since this study aims to measure the adjustment at home of long-term respirator patients, the length of time since discharge from the hospital was noted. The earliest date of discharge was Sept. 1, 1953.

TABLE V. LENGTH OF TIME SINCE DISCHARGE

LENGTH OF TIME SINCE DISCHARGE	NUMBER OF PATIENTS
Two years	1
18 months– 2 years	3
12 months–18 months	8
6 months–12 months	8
Less than 6 months	15
Total	35

VOL.
7
1958

One of the major goals in admitting patients to the Respirator Center is to prepare them for discharge to their homes. In all but 3 cases where the patients were discharged to nursing homes, the patients did go to their own homes when they left the Center. One of the 32 patients was originally discharged to a nursing home but, within four months, arrangements were made for her to join her own family in a different home other than the one to which she was discharged from the Center. Another patient, one of those using respirator equipment, went to a hospital for three weeks until her mother, who was a school teacher, completed her school year and could be available to care for her at home.

What kind of homes did these 32 patients occupy? One patient whose family included 9 children lived in a 7-bedroom home. Two were in 5-bedroom homes, 4 in 4-bedroom homes, twelve in 3-bedroom homes, 8 in 2-bedroom homes, and 3 in 1-bedroom homes. Two patients at home failed to answer this question. One of these is a respirator patient and it is known that her rocking bed is in the family dining room and her parents' bedroom is on the ground floor easily accessible and nearby. The other patient who did not answer the question is a non-respirator patient but, as in the case of all the patients, he is primarily dependent upon a wheel chair for getting around.

Since all these patients are confined to wheel chairs, it is of interest to know whether or not the homes they live in are all on one floor, making it easier for them to be cared for as well as easier for them to participate in all the family's activities. Of the 35 patients replying to the questionnaire, 20 live in one-story houses, ten in 2-story and five did not answer the question.

The stability of the family and a clue to their economic status is reflected in whether they are buying or renting their home. Less than half or 14 were buying or own their home—11 buying, 3 owning. Eight rented their dwelling, 2 live in quarters provided by their church, one adult single patient lives with her parents, and 10 patients did not answer this question. Closely associated with this question is how much per month their housing costs. This varied from $25.00 to $100.00 per month with the mean averaging $65.00 per month.

Another factor more directly related to and indicative of the actual adjustment of the patient at home is whether or not they are presently employed. Many

of the patients listed many activities under "current activities" such as going to school, complete care of the home, etc., but still stated they were not presently employed. Of the 35 patients who returned questionnaires, however, at least 6 considered themselves employed. Of these 6, 2 were patients still using respirator equipment, one working as an accountant, and the other one receiving his income from leather work and part-time secretarial work for the local bowling league. The other 4, all nonrespirator patients, were employed or functioning in such activities as an instructor in pediatric nursing, an insurance agent, an accountant, and a secretary.

Their earnings were as follows. The nurse, teaching part-time, listed her income as $70.00 per month. Another patient, the part-time bowling league secretary, while he did not consider himself as employed, listed his earnings as $12.00 per month. The insurance agent stated his earnings were under $600.00 per year. One patient said she had been working as a secretary earning $120.00 per month. The accountant still using respirator equipment, stated that his earnings were unknown as yet while the nonrespirator accountant reported his earnings as $300.00 yearly.

Of the 35 patients, 25 were able to manage financially on their own earnings plus earnings or income of other members of their families and so were independent of help from outside sources. The other 10 patients were dependent on public funds of some kind which included Veterans' Administration pensions, Social Security benefits, and public assistance funds in the form of Aid to Dependent Children or general public assistance. In some cases, however, these estimates do not include the assistance given the family to pay the salary of the attendant.

An analysis follows of how many of the patients or their families paid the salaries of their attendants and how many continued receiving assistance from the National Foundation for Infantile Paralysis chapters after discharge to their homes. In the cases of 9 of the respirator patients, the chapter was still assuming responsibility for paying an attendant. Three of these were women—two mothers at home with their children, and one, a young woman who had spent five years in a State Orthopedic Hospital, who would otherwise be in a nursing home, subjected to another kind of institutional living, if not provided with an attendant. The other 6 were men, 5 fathers of families able to be with their families or close relatives, and one in a nursing home, located close to his immediate family. The family of one respirator patient was assuming responsibility for payment of the part-time attendant, a registered practical nurse. One of the nonrespirator patients noted that the family paid a portion and the chapter, the balance of the cost of one physical therapy treatment per week.

In connection with this question concerning attendants, we also asked the number of hours the present attendant works. In 2 cases the attendants "live in." Seven attendants were on 24-hour duty, emphasizing the fact that the patients at home requiring extensive mechanical respiratory aid also required, in the majority of cases, full-time attendants. In 6 other cases the patient's mother was responsible for the care. In two other cases, the mothers lived in the patient's home and in addition to the care of the patient shared responsibility for the care of the patient's children.

Salaries for attendants ranged from a high of $240.00 per month ($60.00 per week) to a low of $84.00 per month (3 hours daily at $1.00 per hour). In the 10 respirator cases where an outside attendant was paid, the salary was paid by the local chapter in all but one case.

OTHER EQUIPMENT IN THE HOME

Seventeen patients listed other pieces of equipment in the home besides respirator equipment, suction machines, and wheel chairs. Of these 17 patients, 10 were respirator patients and had at home such additional equipment as shoulder wheels, extra set of batteries for respirator, hydraulic lift, oxygen and Alevaire setup for nebulization, generator in case of power failure, intercommunication system, electric typewriter, stationary bicycle, and ambulance stretcher. The seven nonrespirator patients had at home such equipment as bicycle wheel and arm exercisers, hospital bed, hydraulic lift, exercise bicycle, rowing machine, homemade pulleys for arms, parallel bars, and shoulder wheel.

VOL.
7
958

SPECIAL PROBLEMS IN THE HOME

The special problems listed by the patients concerned functioning of the respirator equipment—either portable respirator or rocking bed, or auxiliary equipment such as wheel chairs or special physical therapy equipment.

BRACES SUPPLIED

Twenty-three of the patients indicated some type of braces had been supplied. Eleven of these were respirator patients and 12 were nonrespirator patients. The braces supplied included all types—back braces, full-length braces, hand braces and wrist braces, long-leg and short-leg braces, corsets, abdominal supports, and shoulder braces. Some patients listed under braces such items as "hand rest," "arm slings," opponens splint for thumb, and finger extender.

Three patients were not using braces with which they had been supplied. One of these, a respirator patient, was not using a hand brace; another, a nonrespirator patient, was not using a "full" brace; and the third, also a nonrespirator patient, was not using a full-length brace.

Three others were using some but not all of the braces prescribed for them. Two of these were nonrespirator patients, one was no longer using a short-leg brace and a shoulder brace, the other was no longer using a back brace. The respirator patient was no longer using a right-leg brace.

FOLLOW-UP CARE

Of the 35 patients answering the questionnaire, 24 listed the name of the physician caring for them. Nine others return to the Center periodically for evaluation either as inpatients or outpatients. One patient is continuing physical therapy exercises at home and is making application for admission to Warm Springs this next summer since he is currently attending college. One other patient stated she is under the care of five different doctors. Therefore, we can conclude that all the patients are under some kind of follow-up medical care.

CURRENT ACTIVITIES

Of the 35 patients answering the questionnaire, 26 indicated some type of "current activities." The types of activities were almost as varied as the 26 individuals. They included school, typing, Christmas card sales and magazine subscription agency, reading, sewing, writing letters, supervising three children, complete care of home and family, giving book reviews and programs for clubs and churches in the community and elsewhere, painting, carrying on variety store business, teaching pediatric nursing, usual activities of home life, writing, radio and television (especially sports), tape recording, textile painting, classical records, art, family problems and interests, leather work, secretary job for the bowling league, drawing, "watching his father do anything mechanical and otherwise," occasional trips to town and church, ball games, swimming lessons, exercises and crutch walking, Teen Town, Youth Sings Choir, insurance auxiliary, organizing accounting practice, movies, insurance agent, student accounting, oil painting, telling stories, and tropical fish.

Of the 9 patients who did not answer this question, 7 went to their homes and probably have as varied a list of activities and interests as the others. The other 2 were discharged to nursing homes near their families and home communities.

It is felt, then, that although very physically handicapped all the patients are leading lives which have a considerable degree of activity and interest.

VOCATIONAL REHABILITATION

It is necessary and desirable to lead not only an active life but also a useful one. Of the 35 patients surveyed, 13 had been referred to the State Department of Vocational Rehabilitation. Of these 13 patients, 5 were respirator and 8 nonrespirator. Of the 5 respirator patients, 2 were at home with a rocking bed only, and 3 others had a rocking bed and portable chest respirator. One of these latter was a quadriplegic and the other was a superior or cervical paraplegic, being unable to use her upper extremities. The third, while referred to Vocational Rehabilitation, has a variety store business and helps with that. Of the 19 not referred to Vocational Rehabilitation, 14 were respirator and 5 were nonrespirator cases. Of the 5 nonrespirator patients not referred, 3 are housewives, one is teaching pediatric nursing, and one is a child. Of the 14 not referred, 8 are quadriplegics. One of the others is a paraplegic and still taking high school courses by extension. Two are housewives. One, a young woman, is carrying on a greeting card business. Another young woman is still interested in completing high school. Still another is, by training, a laboratory technician and not in need of retraining if she reaches the point of being able to pursue her vocation.

Three did not answer this question. One was a respirator patient, an active homemaker. Another was a respirator patient in a nursing home, and the third was a nonrespirator patient recently married.

Of those patients referred to Vocational Rehabilitation, only 8 specified by whom they were referred. These included social service, physician, vocational psychologist, self-inquiry, and others. Twelve of the patients had been visited by

a representative of Vocational Rehabilitation. Two patients, one a quadriplegic and the other a paraplegic, had been referred but not yet visited. One, a young boy and a nonrespirator patient, had been referred but did not indicate whether they had or had not visited him. Eleven patients indicated when they had been visited varying from one month after discharge from the Center to three years ago.

Recommendations of the Vocational Rehabilitation counselors included schooling for 12 of the patients. Of the 12 all were adults of high school age or older, except one who was a 15-year-old boy. None indicated that training or a specific job were recommended. Another patient, visited three years earlier, said the counselor recommended nothing since she was not able to type then. One patient for whom college was recommended, who had planned to be a farmer before his illness, indicated they recommended business administration for him. One other patient referred to Vocational Rehabilitation indicated that they suggested he enter a Veterans' Administration Hospital but he "refused" this advice.

OL.
7
958

EDUCATIONAL COURSES

Inquiry was made as to whether the patients were pursuing any educational courses at the time the study was made. Ten of the patients indicated they were taking such courses. Of these 10 patients 3 were respirator patients and 7 nonrespirator. The 3 respirator patients included a 16-year-old boy who used a portable chest respirator and rocking bed who stated he was studying tenth grade subjects. An 18-year-old boy, using a rocking bed and living in a nursing home, stated he was engaged in "schooling." The third respirator patient was a 19-year-old girl using a console respirator, portable respirator, and rocking bed. Although she is a quadriplegic and unable to use her hands or feet, she said she "may start to school in the fall."

The other 7 patients, all nonrespirator, included a 13-year-old boy who said he attended "homebound" school; a 15-year-old boy who expected to pursue his studies when school started in the fall; an 8-year-old boy who said he hoped to attend school (third grade) half days in the fall; and an 18-year-old girl who was taking an English course from the university by extension. Vocational Rehabilitation had recommended college training for her. It also included a 19-year-old girl who planned to enroll in September, 1955, at the University of Oklahoma to major in dietetics or take a laboratory technician's course. The other two included two young married men who were taking accounting as recommended by Vocational Rehabilitation.

OCCUPATIONAL THERAPY

Still another measure of how the patients are getting along at home was whether they were doing any occupational therapy. Eighteen of the patients indicated they were. Thirteen of these were respirator patients and 5 nonrespirator patients. Some of the patients, all using respirator equipment, specified the type of occupational therapy they were doing which included typing, drawing (with feet), greeting card business, and leather work. Fifteen of the patients

were not engaging in any occupational therapy. Eight of these were respirator patients and 7 nonrespirator. Two patients, one an 8-year-old child and the other, a housewife, both nonrespirator patients, did not specify whether they were or were not doing any occupational therapy. Of the eighteen who did answer, 10 said it was "for fun," or personal or family use; three "for sale;" one for both; and two did not answer this question. One said he had not tried to sell. The three doing it for sale were all respirator patients. One had sold a few paintings and one was selling greeting cards. Another "sold a few" but did not say what. One patient was doing it both for fun and for sale. She does textile painting with a mouthstick and sells cards. The 2 not answering this question were both respirator patients. Answers to the question about current activities revealed information about activities that could also be classed as occupational therapy.

CONCLUSIONS

This has been an attempt to study the psychosocial adjustment of long-term respirator patients in the home and to determine whether they are getting along well or having major problems. The study utilized the questionnaire method. It would be interesting to compare the results of this study with another study (perhaps by interview) which would be more objective. Despite the small number of replies, the results give further evidence that long-term respirator patients can get along very well at home, and in many instances can continue to live useful and satisfactory lives with a moderate amount of financial assistance.

The staff of the Respiratory and Rehabilitation Center has been impressed by the manner and ease by which such severely disabled patients can be integrated into home care situations at much reduced cost to society.

VOL
7
195

SIGNIFICANT FIGURES IN THE REHABILITATION OF CHRONIC MENTAL PATIENTS

BERNARD A. STOTSKY, PH.D., AARON S. MASON, M.D., AND MARY SAMARAS, B.S.*

BOSTON, MASS.

From the Brockton Veterans Administration Hospital and Boston University

(Received for publication Aug. 29, 1957.)

THE CHRONIC, regressed mental patient still remains one of the most difficult problems for psychiatry today. Withdrawn and preoccupied, he is unable to work at even the most simple tasks without close supervision. Among the treatment goals for such patients, those of increased socialization and greater ability to perform productive, purposeful work are of utmost importance. Rehabilitation and recreational activities have provided a means for helping these patients attain such goals. With the increasingly beneficial results of tranquilizing drugs on regressed patients, there is a greatly expanded demand for these activities.

PROBLEM

Most rehabilitation programs are staffed by specially trained therapists who provide instruction in their specialties for an hour or more and then transfer the patients to another specialist for further instruction. Activities are carried on classroom style. This provides adequate instruction but helps neither to establish sustained social and work relationships with the patients nor to provide the continuity from one hour to another which these particular patients need most. Such a program, involving independent planning by each therapist, results in separation from any but the most formal contact with other personnel treating the patient, especially nursing personnel. With the increasing emphasis on utilization of the entire hospital setting for treatment of mental patients, the roles of the nurse and the nursing aides have changed from medical custodians to active therapists whose actions, attitudes, and feelings play a significant part in the treatment process.[1,3,4,7,8,10,12] Many rehabilitation activities by their one-sided emphasis on specialization exclude nurses and aides from participation except as custodians. The rehabilitation therapist, lacking contact with patients

*Psychological Consultant, Director of Professional Services, and Nursing Supervisor, respectively, at Brockton Veterans Administration Hospital.

outside of his activities, finds it difficult to communicate with other therapists and is unable to participate in the ward treatment programs. The result of all this is a lack of coordination and a failure to utilize available personnel effectively in the rehabilitation and recreational activities. Friction and interservice rivalries develop, and the patient suffers.

The study which is being reported here was undertaken in part to deal with this problem and in part as a new mode of structuring rehabilitation activities, utilizing certain basic psychiatric concepts for the purpose. These concepts are as follows: (1) schizophrenia, whatever its etiology, is characterized by withdrawal or distance in interpersonal relations and disorganization of social skills and work habits; and (2) a necessary preliminary to change in schizophrenic patterns of living (resocialization) is confidence in some one person who can help the patient to overcome fear of people and the painful adjustments required by the unfreezing of well-established regressive behavior patterns. The patient can then begin to develop more normal social relations and to become productive through a series of social and work experiences, starting with simple tasks and proceeding to tasks demanding considerable skill and coordination of the efforts of several people. To accomplish these goals requires, according to our rationale, the continued participation over an extended period of the same therapists as significant figures with these patients and a flexible program which is modified to provide activities and social experiences suitable for the particular level at which these patients are functioning. With these considerations in mind, the study was initiated.

DESIGN

Nature of Patient Sample.—Two wards of the chronic treatment service of a neuropsychiatric hospital served as the setting. Each of these wards was composed of 40 mental patients (mostly chronic schizophrenics) who averaged 8 years of hospitalization, in most cases continuous. All modes of psychotherapy, insulin, electric shock, chemotherapy, and, in a few cases, lobotomy, had been attempted with no evidence of sustained improvement. Almost all patients had previously undergone conventional rehabilitation treatment. No patients had grounds privileges at the outset of the study, and all required supervision. They were regarded as no longer actively coping with their psychoses, since even aggressive, deluded, or suicidal behavior had long since disappeared. There was little overt attempt to deal with the environment, even in a delusional manner. Withdrawal and muteness were the predominant adjustive mechanisms. Prognosis for these patients was regarded as poorer than for most chronic patients.

Ward Arrangement.—On each of the wards a rehabilitation team was organized consisting of one rehabilitation therapist, one nurse (part-time), two aides, and a recreational therapist (part-time). The teams' major functions were to plan in advance and to participate together in all activities with the same patients over a 6-month period. The specialists would provide technical direction of the activities, but all personnel would work with and instruct patients. Each therapist was now responsible for instruction in all rehabilitation activities and was also expected to participate in recreational and group ward activities. He became

an all-purpose therapist. Each week the teams would meet to plan the following week's program as well as special events such as field trips, parties, dances, etc. The groups initiated all activities from the wards and provided their own escort. The head nurse for the building assumed administrative responsibility for supervision of the project. The charge nurse on each ward served as link with the psychiatric team personnel dividing her efforts equally between the control and experimental groups.

The rehabilitation teams were given complete freedom to organize the activities and to make time allotments to each activity. If patients were working on a project, they could continue for as long as they maintained their interest instead of having to interrupt work to move to another scheduled activity. Likewise if they were not participating in a particular project, another one could be substituted without having to wait for the end of the period. Activities included calisthenics, toy-making, discussions on current events or topics, movies, swimming, bowling, pool, softball, dancing classes, "happy hour," golf, industrial work activities, coffee hour, canteen breaks, library visits, and group planning sessions.

VOL.
7
1958

Control groups were set up to evaluate this mode of treatment experimentally. These latter continued to operate on the conventional schedule with separately scheduled corrective, educational, occupational, and recreational therapy activities, each conducted by a different therapist. The number of hours actually spent on activities was equal for all groups.

Experimental Procedure.—The patients of both wards were randomly divided into control (C) and experimental (E) groups of about 20 from each ward. Due to transfers and other losses, the final sample consisted of 38 C's and 38 E's. In spite of administrative drawbacks, division of both wards into C's and E's was necessary (a) to control for possible differences in ward atmosphere and organization, (b) because one ward consisted of somewhat more regressed patients than the other, and (c) because no equivalent groups of patients could be found in other parts of the hospital to serve as controls. Housing the two groups of patients on the same ward resulted in intense rivalry between the patients and a strenuous effort on the part of the control group personnel to give the patients in their groups every benefit the experimental group had. The rivalry and competition at least succeeded in demonstrating that even regressed patients were susceptible to such influences. The psychiatric team personnel were kept ignorant of the group membership of particular patients since they had to make dispositional decisions which would be part of the final data.

Briefly the differences in procedure were (a) for E's the same personnel would work with them in all activities, and for C's different therapists would work with them for different activities, and (b) for E's there would be complete freedom of choice of activities, and for C's there would be continuation of the structured schedule with specific time allotments for each activity.

Comparison for Background Variables.—The C and E groups were compared on a number of control variables. No significant differences were found for age, education, diagnosis, occupation, medication, psychotherapy, and length of hospitalization. Comparison of groups for chronic patients immobility index[2] showed no difference and suggested poor prognoses for over 80 per cent of the

patients. Average age for C's was 34.2 years and for E's, 35.7 years. C's averaged 9.2 years of education and E's, 9.4 years. Mean length of hospitalization for C's was 87.4 months and for E's, 109.1 months. This 21.7 month mean difference was not significant due to the wide range of scores from 8 to 428 months. Four C's and 2 E's were hospitalized less than 2 years. One E was hospitalized for 35 years, while the greatest period of hospitalization for C's was 15 years. Thirteen C's and 8 E's had been on trial visits, no one more than twice. Although the differences tended to favor C's, none were significant, nor did they change the characterization of the group markedly toward less chronicity.

Types of Data.—Three types of data were collected. (1) For outcomes such data as number of patients obtaining partial or full privileges in either group, number promoted to advanced technical assignments or regular work details, and number leaving the hospital on trial visit were collected. (2) For socialization two sets of ratings were obtained, the first from 1 to 3 weeks before the start of the project and the second at the completion of the sixth month. During each rating session all patients were observed twice, each time for 5-minute periods, separated by a 5-minute interval of no observations. This was usually done at a rehabilitation activity. All interactions initiated by a particular patient were recorded under three categories: *social*—talking, joking, laughing, greeting, asking for cigarettes or other nonwork materials; *work*—giving tools, supplies, instructions to other persons, asking for assistance, etc.; and *hostile*—expressions of anger, irritation, or hostility. A fourth category *anxiety* was included in trial runs but later eliminated when no evidence of such interaction was observed in preliminary runs. The person to whom interaction was directed was also recorded. A patient's score for each type of interaction was the number of instances of such interaction during the 10 minutes of observation. The second rating 6 months later was always made at the same or an equivalent rehabilitation activity as the first one to eliminate any possible influence of type of activity on the differences between initial and final observations. (3) For productivity all patients were observed twice, once before the start of the project and again 6 months later. Each rating session involved two 5-minute observation periods,(separated by a time interval) during which the number of seconds each patient worked was recorded. The score for a patient was the number of seconds he worked. Scores ranged from 0 to 600.

For both socialization and productivity the prestudy ratings were obtained before the patients were divided into groups. A psychiatric aide from another ward who was in no way associated with the study performed the ratings after receiving several hours of preliminary instruction. He sat in the same room with the patients but slightly off to one side. Almost no attention was paid to him. Reliability of rating was established on a group of 12 patients from another ward by correlating his ratings with those of another aide and a nurse. For social interaction the Pearson r with aide was 0.84, with the nurse 0.87. For productivity the r's were 0.81 and 0.90. These reliabilities were adequate for the study.

Statistics.—For comparisons involving presence or absence of a change, such as number of patients gaining privileges, the *chi square* technique (χ^2) was used.

For comparisons of control and experimental subjects for differences in the amount of change between initial and final ratings, the Mann-Whitney *U* Test,[9] a non-parametric technique for comparing differences in ranks of two sets of observations, was used. For changes within a group from initial to final ratings, the *t* test for correlated means[5] was used. For differences in proportions, the conventional *t* test[6] was employed. Differences at the 0.05 level were considered significant.

Additional Controls.—The staffs for the C and E groups were matched for competence and experience by having the supervisors select personnel they regarded as of equal competence and experience for each group. Patients to be included in the study had to remain with either group for a minimum of 60 days and to have both initial and final ratings made for socialization and productivity. All E's were kept with their groups for 4½ months at least while controls could be advanced any time after 60 days. Competition between patients prevented the kind of precise control possible in the laboratory and meant that in part the control group was influenced by the experimental variables.

VOL.
7
1958

RESULTS

1. The first comparisons were for outcomes. Previous studies have shown that chronic patients can show improvement on various measures of outcome without basic changes in psychiatric symptoms or personality traits.*[11] The experimental group showed a significantly greater number of patients on privileges and on more advanced technical or work assignments two months after the completion of the study (Table I). A further check 40 days later found even larger differences between the groups with no difference for loss of privileges or regression from advanced assignments. No difference was found for trial visits, which is not surprising in view of the short time period.

TABLE I. COMPARISON OF 38 EXPERIMENTAL AND 38 CONTROL PATIENTS FOR INDICES OF IMPROVEMENT

INDEX	C	E	χ^2	PROB.
Pts. on privileges	9	25	13.6	.001
Full	3	3	—	
Partial	6	22	14.5	.001
Adv. work assignment	10	19	4.5	.04

2. Comparisons for productivity showed significant differences for productivity at the end of 6 months and for changes in productivity from initial to final ratings with E's obtaining higher scores in both instances (Table II). Moreover, a significantly greater number of E's showed positive change—16 to 8.

3. Table III provides the results showing no significant differences for changes in social, work, and total interaction. Within the E group changes between initial and final ratings were significant for social and for total interaction.

*Wolf, Sacks, and Mason also report this finding in an unpublished study of geriatric patients.

TABLE II. COMPARISON OF 38 EXPERIMENTAL AND 38 CONTROL PATIENTS FOR PRODUCTIVITY

		TIME WORKED MEAN	U[1]	χ^2
Initial:	C	345.4	− .71	
	E	384.4		
Final:	C	313.8	−1.98*	
	E	446.4		
Change:	C	−31.6	−1.79*	
	E	61.9		
No. pos.:	C	8		3.9*
changes:	E	16		

Minus scores indicate that E's are higher.
*Significant at .05 level.

For the C group all differences were positive but none quite reached significance. Combining the groups, we find significant positive changes in all three categories. These results are due in large part to the effect of the experimental situation on the ward setting. The control group personnel attempted to provide more socializing experiences for their patients. The latter picked up the spirit and attempted to outdo the experimental patients. The result was increased activity. This is reflected in a 55 per cent increase in interaction for C's and a 71 per cent increase for E's from the initial to the final ratings. This upward trend is clearly reflected in the significant increase for the combined groups (Table III).

TABLE III. COMPARISON OF 38 EXPERIMENTAL AND 38 CONTROL PATIENTS FOR INTERPERSONAL INTERACTION

COMPARISON		U	COMPARISON		t
Evs. C			*Final minus Initial*		
Initial:	Social	−0.62[2]	E:	Social	2.15*
	Work	−0.74		Work	1.62
	Total[1]	−0.67		Total	2.02*
Final:	Social	−1.14	C:	Social	1.54
	Work	−0.79		Work	1.34
	Total	−1.00		Total	1.58
Change:	Social	−0.47	Combined:	Social	2.70†
	Work	−0.15		Work	2.08*
	Total	−0.35		Total	2.58*

[1]Two hostile interactions included here.
[2]Minus scores indicate that E's are higher.
*Significant at 0.05 level.
†Significant at 0.01 level.

4. One important difference emerged in the type of interaction. In the E group the greatest relative gain was in patient-patient interactions while the proportion of patient-therapist interactions declined (Table IV). In the control group the proportions remained relatively constant. Clearly for these groups patient-patient interaction is more desirable than patient-therapist interaction even though the latter be initiated by patients. It represents a kind of socialization which is difficult to achieve in regressed patients and suggests decreasing

dependence on the therapist by the E group. The possibility of artifact exists, resulting from initially higher proportion of patient-therapist interactions in the E group. However, the original difference was not significant, and the differences for amount of change are so great as to render doubtful the possibility of artifact.

TABLE IV. COMPARISONS FOR PATIENT INITIATED INTERACTION TO THERAPISTS AND TO PATIENTS

COMPARISON		PER CENT	t
Pt-Therapist			
Initial:	C	59.4	1.53
	E	75.8	
Final:	C	61.1	.78
	E	52.2	
Pt-Pt			
Initial:	C	40.6	1.53
	E	24.2	
Final:	C	38.9	.78
	E	47.8	
Changes			
Pt-Pt:	C	− 1.7	3.16*
	E	23.6	
Pt-Th:	C	1.7	3.16*
	E	−23.6	

*Significant at 0.01 level.

DISCUSSION

The over-all findings support the assumptions underlying the organization of the rehabilitation program and in general favor the new approach. While some of the experimental rigor had to be sacrificed in the face of the clinical and administrative realities, enough control was maintained to allow confidence in the results. If anything, the situation tended to favor the control groups and to tend toward convergence of results. It must also be kept in mind that these are relatively short-term results. The long-term effects of the new approach will have to be measured in years, in terms of patients discharged from the hospital who do not return soon after discharge, of patients who maintain improvement in socialization and productivity, etc.

Looking at the results in a nonsystematic manner, many individual changes of great significance were noted. Patients who were stubbornly mute for many years, some who were apathetic and retarded, began showing new interest in activities. Highly dramatic are the instances where such patients arose to dance with aides on their own volition, asking the ladies for the privilege. Patients began to work together with zeal and vigor on group projects—such as toy-making for the retarded children in a state school. The E group, many of whom had recently needed assistance in dressing, decked out in their Sunday best, went to dinner several times in well-known restaurants—and conducted themselves in such a normal manner as not to be noticed by the other patrons. In many other situations where normal behavior was expected of them they in fact

behaved normally. Romantic interests developed in some cases toward female aides and nurses and were handled with admirable restraint on both sides. The patients showed strong feelings of solidarity and comradeship when several of them were sent to advanced wards. They returned frequently to visit their comrades and to participate in group functions. The patients were still undeniably schizophrenic but came much closer to normal in their behavior, if not in their thinking. Moreover, their in-group spirit showed up in the complete disappearance of elopements and unauthorized departures from activities. Morale of the staff was very high and a feeling of closeness and greater identification developed among staff members which extended to social activities.

Rehabilitation activities are an important part of treatment. They provide not only the techniques, tools, and settings in which patients can learn to be normal, sociable, and productive but also help to consolidate gains made through other modes of treatment. The results are not spectacular but over a period of time are most impressive and provide a reasonable basis for a comprehensive treatment program which prepares the mental patient to resume his proper place in the community. The resocializing experiences and the relearning of proper work habits through the medium of significant figures are essential parts of the psychiatric treatment process. The procedure utilized here seems especially suitable for such patients and to warrant further application in other settings. This study points up the possibility of applying other psychiatric concepts such as dealing with resistance, group transference, collective problem-solving, gradual conditioning to stress, to rehabilitation of chronic mental patients. Finally this study suggests that aides can be utilized at a much higher level in rehabilitation activities than previously recognized.

SUMMARY

This paper is a report of an attempt to apply basic psychiatric concepts regarding schizophrenic patients to the organization of rehabilitation activities. The project was conducted in a setting containing a comprehensive treatment program for regressed patients which had produced remarkable results but which needed some modification to produce further gains in these patients. The major focus was an attack on the social isolation and lack of productivity of regressed schizophrenics. The method involved training a few key figures to work as all-purpose rehabilitation therapists with patients thus serving as significant figures to them and using their relationship with the patients to instruct, motivate, and direct the patients to more social and productive modes of behavior. Flexibility of programming was another feature of the project.

The sample consisted of experimental and control groups of 38 patients each from two wards of chronic, regressed schizophrenic patients with poor prognoses. Average hospitalization was in excess of 8 years. The experimental and control groups were divided in two with each experimental group having a rehabilitation team consisting of nurses, aides, rehabilitation, and recreational therapists working together with the same patients for the entire day. Controls remained on the conventional hourly schedule of discreet activities under the supervision of different therapists. The experimental period was 6 months.

Comparison of groups showed certain significant differences. Relative to the control group the experimental group increased productivity, obtained more grounds privileges and more advanced technical or industrial assignments, and showed a greater increase in patient-patient interaction. No differences were found for changes in social and work interaction but both groups showed a large increase in interaction. Part of the convergence was surmised to result from the keen rivalry between control and experimental patients and the desire of control staff and patients alike to emulate the experimental group.

The results support the application of this new approach to rehabilitation therapy for the chronic mental patient and raise the possibility of further application of psychiatric concepts to rehabilitation.

Acknowledgement is made to Mr. Arsenault, Mr. Baker, Mr. Emond, Mr. Geppner, Mr. Scully, and Mr. Lyons, Miss Greeley, Miss Montrond, and Miss Blake, and Dr. Conners and Dr. Rodofsky for their help.

VOL.
7
1958

REFERENCES

1. Caudill, W., Redlich, F. C., Gilmore, H. R., and Brody, E. B.: Social Structure and Interaction Processes on a Psychiatric Ward, Am. J. Orthopsychiat. **22**:314, 1952.
2. Crandell, A., Zubin, J., Mettler, F. A., and Logan, Noreen D.: The Prognostic Value of Mobility During the First Two Years of Hospitalization for Mental Disorder, Psychiat. Quart. **28**:185, 1954.
3. Galione, E. G., Adams, F. A., and Tallman, F. F.: Intensive Treatment of Back Ward Patients: a Controlled Pilot Study, Am. J. Psychiat. **109**:576, 1953.
4. Greenblatt, M., York, R. H., and Brown, Esther Lucile: From Custodial to Therapeutic Care in Mental Hospitals, New York, 1955, Russell Sage Foundation.
5. Lindquist, E. F.: Statistical Analysis in Educational Research, New York, 1940, Houghton Mifflin Co.
6. McNemar, Q.: Psychological Statistics, New York, 1949, John Wiley & Sons, Inc.
7. Rioch, D. McK., and Stanton, A. H.: Milieu Therapy, Psychiatry **16**:65, 1953.
8. Schwartz, M. S., and Will, Gwen T.: Low Morale and Mutual Withdrawal on a Mental Hospital Ward, Psychiatry **16**:337, 1953.
9. Smith, K.: Distribution—Free Statistical Methods and the Concept of Power Efficiency. In L. Festinger and D. Katz (editors): Research Methods in the Behavioral Sciences, New York, 1953, Dryden Press.
10. Stanton, A. H., and Schwartz, M. S.: The Mental Hospital: A Study of Institutional Participation in Psychiatric Illness and Treatment, New York, 1954, Basic Books, Inc.
11. Stotsky, B., Daston, P. G., and Vardack, C. N: An Evaluation of the Counseling of Chronic Schizophrenics, J. counsel. Psychol. **2**:248, 1955.
12. Stotsky, B., Sacks, J. M., and Daston, P. G.: Predicting the Work Performance of Psychiatric Aides by Psychological Tests, J. counsel. Psychol. **3**:193, 1956.

SCREENING FOR VENEREAL DISEASE

PAUL D. ROSAHN, M.D.

NEW BRITAIN, CONN.

From the Laboratories of the New Britain General Hospital

(Received for publication Oct. 21, 1957.)

IN CONSIDERING the problem before us, a definition of the terms "mass screening" and "venereal disease" is desirable. Mass screening implies the examination of asymptomatic persons, unselected except for such broad categories as age or sex, by a preliminary diagnostic procedure which, though lacking in specificity, has extreme sensitivity to the biologic alterations produced by the disease under investigation. One such mass screening procedure employs a standard serologic test for syphilis as a method of identifying, for further, more precise evaluation, individuals with probable syphilitic infection. The venereal diseases include by common consent the minor entities of gonorrhea, chancroid, granuloma inguinale, and lymphogranuloma venereum. All of these, with the exception of gonorrhea, have exhibited a marked decline in incidence in this country during the past decade. Gonorrhea, however, with a continuing high incidence, has not yet come under control. These minor venereal diseases, although presenting many diagnostic and control problems, are considerably less important than the major venereal disease syphilis with which the remainder of this discussion is primarily concerned.

All of the evidence indicates that there has been a marked decrease in the incidence of syphilis in this country since the peak war and postwar years. Schamberg[1] states "the rate of new syphilitic infections has declined by 93 per cent" from the peak incidence of 1946 and 1947. Moore[2] cites the peak year 1947 when 106,539 cases of primary and secondary syphilis and 107,767 cases of early latent syphilis were reported, or a total of 214,000 cases of early syphilis. In 1955, again according to Moore, there were reported 27,000 fresh infections with syphilis (6,500 primary and secondary, and 21,500 early latent). This represents an 87 per cent decline in fresh cases. Not only have newly discovered infectious cases diminished, but all categories of syphilitic disease have likewise decreased as indicated by the results of serologic testing. Although it is recognized that the standard serologic test for syphilis is not diagnostic per se of syphilitic infection, the results of this test can be accepted as a useful index of prevalence. In the laboratories* of the Department of Health, State of Connecticut,

Presented at a Panel Discussion on "Mass Screening and the Pathologist," Sept. 30, 1957, at the Annual Meeting of the American Society of Clinical Pathologists and the College of American Pathologists, New Orleans, La.

*The cited data were kindly supplied by Earle K. Borman, Chief, Laboratory Services Section.

319,725 serologic tests for syphilis were performed in 1947, with 4.8 per cent reactors. The frequency of reactors steadily decreased to its lowest value, 2.6 per cent, in 1956, when 409,654 tests were done. In 1947, there were 1.5 per cent reactors in a group of 152,286 premarital, prenatal, pre-employment, and Selective Service tests. The frequency of reactors in these groups gradually declined to its lowest value of 0.74 per cent in 1956, when 148,505 sera were examined. No doubt some portion of the decrease in syphilis is due, as suggested by Clark[3] and others, to "under reporting" and to a reduction in efforts to detect suspects, but in spite of recent relaxation of the aggressive public health activities of the war years, the "1956 trend is still downward" as Moore[2] emphatically states. Whether this downward trend will continue or whether a recrudescence of infection will occur as Schamberg[1] warns, if penicillin produces increasing numbers of sensitized persons, if public health controls are further relaxed, or if the reservoir of uninfected individuals provides a large nonimmune population, only time will tell.

VOL.
7
1958

A pattern with regard to syphilis control measures has developed. The trend of incidence and probably also of prevalence of syphilis is steadily downward. Therefore let us reduce our support of basic research, of case finding and reporting techniques, of teaching and treatment centers. The disease is on the run, and we do not have to chase it any more. In line with this general philosophy, the Joint Commission on Accreditation[4] recently declared, "The requirement that all patients on admission have a serological test for syphilis has been dropped. This is now optional with the hospital. Hospitals should determine the legal requirements of their respective states concerning the serological test for syphilis, especially those regarding obstetrical patients." The emphasis is on "legal requirements," not on the medical desirability of detecting the patient with syphilis, or on the responsibility to protect the community. Thus official support of mass screening of hospitalized patients for syphilis has been withdrawn.

The question before us then is whether there is wisdom in this general relaxation of our attitudes toward syphilis. Each of us as physicians and pathologists will approach this question in his own way and for what it is worth. I offer my own opinion. I believe that public health measures for the discovery, control, and treatment of syphilis should not be relaxed and that mass screening for syphilis in hospitals should continue. There are several reasons for this opinion, particularly as it relates to hospital practice:

1. Syphilis may only be dormant. Lacking mass hospital screening tests, we may be deprived of early evidence of its mounting incidence.

2. The hospital has an obligation not only to the patient, but to the community. Every patient entering its doors with early syphilis, manifestly or potentially infectious, should be treated and rendered noninfectious before he is discharged into the community.

3. Diagnostic problems are frequently resolved by a serologic test for syphilis in instances where the attending physician may not have considered syphilis in his differential diagnosis.

4. Routine serologic tests for syphilis may reveal the biologic false positive reactor and thus may serve as a screening test for significant diseases other than

syphilis and particularly for lupus erythematosus disseminata and other collagen diseases.

The practicability of any screening test must take into consideration its cost in relation to its discovery rate. Consider the cost per newly discovered case of cervical intraepithelia carcinoma by the vaginal smear screening technique. A fair estimate of the basic cost of processing an individual's smears is $3.00. In the Memphis survey[5] the new case discovery rate was 1 in 250 examinations. In our own experience it is about 1 per 350 screened patients. This means that the cost of discovering an unsuspected case of cervical carcinoma-in-situ is from $750 to $1,050. What about syphilis? In Connecticut the syphilis rate is among the lowest in the country. In the Connecticut hospital with which I am associated, S.T.S. reactors numbered 7 per 1,000 examined in the last two calendar years. At a basic cost estimated at about $1.50 per test, this represents about $200 as the cost of discovering an S.T.S. reactor. In other sections of the country where syphilis rates are higher than in Connecticut, the cost of discovery of an S.T.S. reactor would be correspondingly lower. We have not checked through our files to ascertain the final diagnosis of these reactors. No doubt some of them were already recorded in our syphilis registry. Others may have been biologic false positive reactors. Still others were without doubt newly discovered syphilis cases, and therefore were candidates for treatment.

There is no intention here of equating the importance of the two diseases, the one noninfectious, causing death if not discovered and treated, and the other infectious, with a mortality rate if untreated of only from 10 to 25 per cent.[6,7] These comparative costs are rather intended to point up the question which should be considered, namely, what is it worth in dollars and cents to the patient and to the community to find a case of syphilis through mass screening techniques.

As already indicated, mass screening for syphilis may be useful not only as a means of detecting the patient with syphilis but also as a screening test for diseases other than syphilis, among which the most important is lupus erythematosus disseminata. Moore[8] studied about 500 white patients of upper educational and socio-economic level who were routinely discovered to have a positive standard S.T.S. known to have been present for one year, in the absence of any history of infection with syphilis of any physical evidence of the disease, and with a normal spinal fluid. Forty per cent of these patients were shown by means of negative *Treponema pallidum* immobilization (TPI) tests not to have syphilis but instead to be chronic biologic false positive (BFP) reactors. Of 148 such patients who were subject to careful evaluation, 10 developed proved systemic lupus, 7 developed rheumatoid arthritis, and 45 were diagnosed as having probable collagen vascular disease, a total frequency of 41.9 per cent. Continuing studies of this group will no doubt reveal additional instances of these disorders. Thus screening for syphilis by means of a standard serologic test may reveal not only the patient with syphilitic infection, but may be the initial indication of a developing collagen disease. In this connection the findings of Bossak and associates[9] after a year's experience with a nationwide TPI testing service are of interest. They examined 2,465 sera. Of this number 1,635 cases without a history or evidence of syphilis

were considered by their physicians to be biologic false positive reactors. TPI tests on this group revealed 1,014 or 62 per cent nonreactors.

Since 1951, many serologic tests using antigens prepared from virulent *Treponema pallidum* have been developed. All of these are useful both in the diagnosis of syphilis and in the discovery of the biologic false positive reactors. These tests are: (1) *Treponema pallidum* immobilization test (TPI), (2) *Treponema pallidum* agglutination test (TPA), (3) *Treponema pallidum* immune-adherence test (TPIA), (4) *Treponema pallidum* complement fixation test (TPCF), and (5) *Treponema pallidum* methylene blue test (TPMB). All of these tests require research skills and techniques of greater or lesser degree. None of them can be conducted by the average technologist in the average hospital with accuracy, dependability, and reproducible results. Evidence from many laboratories has demonstrated the great value of these tests and particularly of the TPI test, in distinguishing serologically positive syphilitic patients from biologically false positive reactors. Because of the importance of recognizing this latter group, support should be given to research efforts directed at modifying the TPI test so that it can be readily adopted as a clinical laboratory procedure in the nonresearch hospital.

VOL.
7
1958

In summary, although there has been a marked drop in incidence of fresh cases in the last decade, syphilis is still an important disease. Screening for syphilis, through routine serologic examination of hospitalized patients should not be discontinued. Such screening is worth while not only as a means of discovering patients with previously undiagnosed syphilis, but also because it will help to identify biologically false positive reactors, many of whom have or will subsequently develop significant diseases other than syphilis. To assist in distinguishing the serologically reactive individual with syphilis, from the biologically false positive reactor, a simple laboratory test is urgently needed, one which is within the technical scope and facilities of the average hospital and its technologists.

REFERENCES

1. Schamberg, I. L.: Can the Treponeme Stage a Comeback? A.M.A. Arch. Dermat. **73**:523, 1956.
2. Moore, J. E.: The "Rising Tide of Infection" of Syphilis, J. CHRON. DIS. **6**:280, 1957.
3. Clark, A. B., Thomson, G. D. C., and Kehr, F.: Syphilis Morbidity Reporting in Montana, 1950-1954, Pub. Health Rep. **72**:194, 1957.
4. Bulletin of Joint Commission on Accreditation of Hospitals, No. 11, March, 1956.
5. Erickson, C. C., Everett, B. E., Jr., Graves, L. M., Kaiser, R. F., Malmgren, R. A., Rube, I., Schreier, P. G., Cutler, S. J., and Sprunt, D. H.: Population Screening for Uterine Cancer by Vaginal Cytology, J.A.M.A. **162**:167, 1956.
6. Gjestland, T.: The Oslo Study of Untreated Syphilis; an Epidemiologic Investigation of the Natural Course of the Syphilitic Infection Based Upon a Re-study of the Boeck-Bruusgaard Material. Acta dermat.-venereol. (Suppl. 34) **35**:3 (Annex I-LVI), 1955.
7. Rosahn, P. D.: Studies in Syphilis. VII. The End Results of Untreated Syphilis, J. Ven. Dis. Inform. **27**:293, 1946.
8. Moore, J. E., and Lutz, W. B., The Natural History of Systemic Lupus Erythematosus: An Approach to its Study Through Chronic Biologic False Positive Reactors, J. CHRON. DIS. **1**:297, 1955.
9. Bossak, H., Falcone, V. H., and Harris, A.: A Year's Experience With a Nationwide TPI Testing Service, Pub. Health Rep. **72**:317, 1957

Review

THE CARE OF THE LONG-TERM PATIENT: A REVIEW OF THE ADMINISTRATION OF PRESENT PROGRAMS

EDGAR J. MUNTER, M.D.,* AND MARK BERKE, B.A.**

SAN FRANCISCO, CALIF.

(Received for publication April 17, 1957.)

INTRODUCTION

THE purpose of this paper is to present a review of some of the existing patterns or trends in the administration of medical care programs for the long-term patient, with particular reference to home care programs.

The medical care programs of any community should fit together; thus, it is increasingly necessary for the governing bodies of medical and institutional facilities, medical societies, community planning agencies, service agencies, and governmental agencies on all levels to concern themselves with the problems of the administration of programs for the care of the long-term patient. One of the major questions is the extent of applicability of home care programs.[1,2]

This paper presents the history and origin of programs for the care of long-term patients, some current concepts and definitions, and a summary of estimates of the magnitude of the problem. The major problems in administration of such programs are reviewed, in particular those related to planning, organization, coordination, and integration of programs, together with their financing and staffing and their potential value for teaching and research. The published material is extensive, and although the appended bibliography is not exhaustive, the bibliographies contained in the listed papers are.[3-5]

Care of the chronically ill is inextricably woven with finances and the needs of human beings with a past, a present, and a future. Partly because of difficulty of easy definition and partly because of the complexity of the human problems involved, traditional scientific approaches do not seem to be applicable. New approaches need to be developed.

"Perfections of means and confusion of goals seem—in my opinion—to characterize our age. If we desire sincerely and passionately the safety, the welfare

*Chief of the Department of Long-term Care, Mount Zion Hospital, San Francisco; Associate Clinical Professor of Medicine at University of California Medical School, San Francisco; and Medical Consultant to the San Francisco Home Care Program.

**Director of Mount Zion Hospital, San Francisco; Administrator of Maimonides Health Center for the Chronically Ill, San Francisco; and Executive Director of the San Francisco Home Care Program.

and the free development of the talents of all men, we shall not be in want of the means to approach such a state. Even if only a small part of mankind strives for such goals, their superiority will prove itself in the long run."[6]

HISTORY AND ORIGINS

Whose Responsibility?—Responsibility for the care of the chronically ill and of the aged has traditionally fallen to "charitable" groups. As city and county governments have grown in the United States, they have of necessity established and maintained homes for the aged or "poor farms." For the most part the clients of these institutions were and are given only cursory medical care, if any. In 1947, in the report "Hospital Care in the United States," the Commission on Hospital Care reported that "in the last decade some improvement has been made in the conduct of these custodial institutions, but much remains to be done before they can meet acceptable standards."[7] Supplementary and of a generally higher caliber have been facilities maintained by religious and fraternal groups, whose history of service in this area goes back centuries in the first instance and to the Industrial Revolution in the second.

The Growth of Hospitals.—Many of the chronically ill and aged have, of course, received care in general hospitals and in hospitals for the mentally ill and tuberculous. The factors affecting the growth of these institutions in the United States have been identical with those affecting the growth of the country as a whole—"religion, war, medical science, education, social organization, economic conditions, and public appreciation."[8] In 1873, there were reported to be 178 hospitals, general and special, with a capacity of 34,453 beds, one-third of which were for the insane. The first reliable collection of data on hospitals in the country was published in 1909, when there were 4,359 general and special hospitals with 421,065 beds registered by the American Medical Association. By 1928, the number had risen by 57 per cent to 6,852 hospitals with 892,934 beds. The number of hospitals dropped to 6,128 in 1937, rose to 6,655 in 1943, and then dropped and rose again to 6,970 in 1954. There were, in 1954, an aggregate of nearly 1,578,000 beds—9.8 per 1,000 population. Table I shows a summary of hospital utilization by specialized type of service for the United States in 1955.

TABLE I. SUMMARY OF HOSPITAL UTILIZATION BY SPECIALIZED TYPE OF SERVICE IN THE UNITED STATES, 1955[9]

TYPE OF SERVICE	NUMBER OF HOSPITALS	NUMBER OF BEDS	AVERAGE DAILY CENSUS	ADMISSIONS
ALL HOSPITALS, TOTAL	6,956	1,604,408	1,363,024	21,072,521
General	5,431	685,655	505,197	20,047,139
Mental and allied	586	772,852	740,295	356,377
Tuberculosis	374	80,505	65,675	109,520
Chronic and convalescent	228	38,517	33,960	61,343
Orthopedic	96	8,185	5,993	53,989
All other	241	18,694	11,904	444,153

Development of Outpatient Services.—Outpatient services, a second source of care for long-term patients, began as "dispensaries for the worthy poor." A "clinic" was begun at the Pennsylvania Hospital in Philadelphia in 1752, and the Philadelphia Dispensary was established in 1786. Dispensaries were established in New York in 1791, and in Boston in 1796. The dispensary was an appropriate name, since the chief service was to dispense drugs, often with only cursory examination. Privately supported, independent dispensaries gradually were replaced by clinics in hospitals, and today in the larger hospitals aggregates of clinics have become organized outpatient departments.[10]

Medical Care Through Health and Welfare Agencies.—Health and medical care programs for the long-term patient and the aged are provided by and through health and welfare departments as well as through social service agencies.[11] The report of the Sub-Committee on Medical Care of the American Public Health Association showed that, by 1947, 62 medical care programs were administered by local health departments, the earliest of which had originated in Kansas City, Cincinnati, and Toledo in the post-Civil War period. The 59 other programs had been established after 1918, and most of them after 1945. Persons eligible for care in the programs were and are for the most part the indigent and medically indigent.[12]

Medical care services administered by public welfare agencies have been shaped in general by federal legislation. Under the Federal Emergency Relief Administration, federal funds could be used for medical care of persons receiving relief. Usually state public assistance agencies have recognized medical services as an essential of living, although the Social Security Act did not specifically mention medical care until 1950.[13]

The Growth of Nursing, Social Services, and Other Services.—Nursing is an old and honorable profession. Social services have developed with the community's sense of social responsibility for the indigent. Foster home care and homemaker services are of more recent origin and have yet to be established in many communities.

Growth of Home Care Programs.—Home care programs per se are considered to have evolved from the old dispensaries. In 1796, the Boston Dispensary of the New England Medical Center instituted a home care program that has continued to be a part of the educational experience for senior medical students over the years. Programs were subsequently begun at the Medical College of Georgia in 1925, and at the College of Medicine of the University of Vermont in 1930. The Chicago Department of Welfare included home care in its medical care program for its clients initiated in 1933. The greatest increase in the numbers of programs has been since 1940. By 1950, there were 30 and by 1952, reportedly, 50 home care programs in the United States.[14]

TRENDS IN CONCEPTS

Solutions Produce Problems.—The fact that, during the past half century, man's longevity has increased by eighteen years and has been taken as having greater medical, economic, and social implications than the advent of more publicized advances in atomic energy, air transportation, and developments in

communications. The effort to lengthen life is one of the characteristics of Western cultures; however, as Switzer and Rusk[15] point out, the pursuit of this objective with increasing success year after year has created new and mounting problems for all aspects of our culture in general, and for the medical and allied professions in particular.

Toward Prevention and Rehabilitation.—The key words in discussions of programs for the long-term patient are "prevention," and "rehabilitation."[16-19] In both areas the trend is toward an increasingly broad interpretation of these terms, one of the most felicitous being the series of recommendations made by the Commission on Chronic Illness. According to the Commission, the basic approach in the care of the long-term patient must be preventive. Those assuming responsibility for the care of the long-term patient must also bear the responsibility for early diagnosis and speedy and comprehensive treatment of the patient's total physical and emotional needs.

OL.
7
958

Toward Integration of the Chronically Ill Into General Programs.—The Commission further maintains that the care of the chronically ill is inseparable from general medical care. "While it presents certain special aspects, it cannot be medically isolated without running serious dangers of deterioration of quality of care and medical stagnation."[20] This implies that we are in danger of isolating the chronically ill, although those patients who are receiving such care are, realistically, already isolated in most instances. The problem seems to be that of bringing these patients back into the main stream of medical care.

Progressive hospital administrators in the country advocate caring for long-term patients in general hospitals. Here, hopefully, the patient will receive more medical supervision, young physicians will have an opportunity to learn more about the problems of the chronically ill, and attitudes will be fostered that will be conducive to research into the medical, sociologic, and emotional aspects of the care of the long-term patient.

The most desirable approach to providing hospital care to long-term patients is through extension, organization, and coordination of the facilities and services of general hospitals, both private and public. In some general hospitals this will require only an extension of the hospital's responsibility and reorientation of the staff so that diagnostic and therapeutic services—disproportionately dedicated to acute illness—will be appropriately and adequately applied to the chronically ill. In many hospitals additional beds will be needed and personnel, space, and equipment required to provide specialized services to the long-term patient. In all general hospitals the concept, philosophy, and practice of rehabilitation must be paramount. Further, it is recommended that special chronic disease hospitals be considered only when it is impossible to associate the chronic disease facility physically and administratively with the general hospital.

Medicine, a Sociobiological Science?—The trend toward classifying medicine as a social as well as a biological science will be increasingly felt during the next several decades. The trend is in reaction to multiple stimuli among which is the long-term patient's need for nonmedical assistance from his physician as an integral part of his medical care program. The patient also needs the help the physician can give him when the physician works to organize community re-

sources where they do not exist, and to improve those that do exist. "Medicine," as Dean Rappleye of the College of Physicians and Surgeons of Columbia pointed out in 1954, "must now be recognized as a social as well as biological science requiring technical knowledge and skills, facilities, organization, adequate financing, proper public relations and all the complications of a comprehensive community service."[21]

The lines separating "medicine," "preventive medicine," and "public health" are growing fainter. Communities are undergoing examinations for diagnosis of their ills, and health and welfare departments now have administered medical care programs for many years.

Who Will Provide Medical Care?—The problem of who shall provide medical care for the specific groups (for example, those described in the section on Financing) is being solved slowly, and there is no reason to believe any radical change is imminent.

There is perhaps relatively less discussion concerning who will care for the aged ill and the chronically ill, because there are so few choices. These groups are characteristically less well off economically, so that the main burden falls on the publicly supported institutions. Willingness and ability to pay for medical care is frequently the key as to who will provide the care. Insurance has come to play a major role in the financing of medical care in recent years and the trend promises to continue.

Why the Interest in Home Care?—There are four major reasons why home care programs have aroused so much interest of late. The first is, we believe, because the idea in itself is appealing in its simplicity. Hospitals are institutions hampered by restrictive rules and regulations despite all their efforts to provide a homelike atmosphere. Caring for the sick in the security of their own homes seems to be the natural thing to do, especially in the case of long-term patients. In spite of this natural appeal, it must be recognized that taking the hospital to the home in the form of home care may be an even more complicated administrative problem than the attempt to make the hospital itself seem to be a home.

The second reason for the interest in home care programs is the opportunity they provide for the education of physicians, nurses, social workers, occupational therapists, physiotherapists, and other allied personnel in working most effectively together in the best interests of the patient.

Third is the financial saving home care programs are presumed to effect. Logically one would surmise there would be need for fewer hospital beds in areas where extensive home care programs are in operation, but the question of how many less beds are needed if the home care program is highly organized is difficult to answer, and it is dangerous to attempt a generalization because of the variety of factors operative in different communities.

The fourth reason is attractive to those concerned with the patient as a human being: there is a favorable emotional effect on those patients who can accept care in their own homes and whose families are willing to accept the responsibilities and planning that are part of such care.

Other Trends.—The only other trends that need to be mentioned here are in the field of administration, which, like medicine, has become highly specialized.

VOL 7 195

There are specialists in planning, organization, coordination, financing, personnel, inservice education, research, and records to mention just a few. Studies have been devised that evaluate almost every phase of administration. In some localities and institutions, evaluation is badly needed, whereas others have been studied over and over again. Studying a problem is a highly effective way to delay the necessity for finding a solution, and it has been suggested that in some places the time for dissection is past and the time for action has arrived.

THE IMPORTANCE OF DEFINITIONS

The Study Group on Research of the Conference on the Care of the Long-term Patient, in 1954, stated that common agreement on the meaning of terms used in describing and analyzing health needs and resources for chronic illness would greatly promote the coordination of activities, the usefulness of interpretations of experience, and the assurance that bits of knowledge gained in one program could be fitted into a cohesive pattern with other information.

A Glossary Is Needed.—A glossary of terms and principles in the care of prolonged illness is needed. It would improve the comparability of research findings and reports and serve in the field of chronic illness as useful a function as does the *Handbook on the Control of Communicable Diseases in Man* in the control of communicable disease (published by the American Public Health Association and the United States Public Health Service). A glossary might well specify, as does the preliminary draft compiled by McGibony and Mack,[22,23] the use of individual terms in a given program context. In attempting to categorize various diagnoses according to whether they were "acute" or "chronic," the United States Public Health Service found it necessary to divide them arbitrarily, "according to general usage."[14]

Among the terms that need further definition is chronic illness or disability itself and its various stages—progressive, intermittent, arrested, and healed. The terms "convalescent," "custodial," "aged," "hospital," "home," "curable," "incurable," also need strict definition.[24]

Chronic Illness.—Chronic illness itself has been defined by the Commission as: "All impairments or deviations from normal which have *one or more* of the following characteristics: are permanent; leave residual disability; are caused by non-reversible pathological alteration; require special training of the patient for rehabilitation; or may be expected to require a long period of supervision, observation or care."[25]

Bluestone has made the important observation that the same illness has a way of striking "acutely" in one case and "chronically" in another and that acuteness wears off before the illness is cured, often giving a false sense of security to the planner of medical care.

The Long-term Patient—The Patient With Prolonged Illness.—The definition of the term "long-term patient" by the Commission on Chronic Illness includes "persons suffering from chronic disease or impairments who require a prolonged period of care; that is, who are likely to need or who have received care for a continuous period of at least 30 days in a general hospital, or care for a continuous period of more than 3 months in another institution or at home, such care to

include medical supervision and/or assistance in achieving a higher level of self-care and independence."[26]

Bluestone prefers the use of the expression "patient with prolonged illness" to the common expression "chronic patient." He maintains that "part of our faulty organization in dealing with this subject stems from the use of this discouraging, misleading, and wholly inadequate cliché. To a great many people 'chronic patient' calls up the image of a person who is 'chronic,' unproductive, incurable, an endless drain on society, and, in fact, in the way."[27]

Bluestone also warns that the expression "custodial patient" is a contradiction in terms. The custodial *case* is the homeless one who is helpless not medically, but socially. The patient may be an otherwise normal human being who has had a limb or organ removed or who bears for life a similar scar without any other damage. He may not be discharged from the hospital or from medical supervision until he passes safely through the acute or chronic and convalescent phases and can return to normal or handicapped living at home, or in a substitute for his home. He may be eliminated from the mind of the medical planner only under these circumstances. The indifferent interchange of the words "chronic" and "custodial" results in a disservice to both and "is a sure sign that planning will fail where it might otherwise succeed."[28]

The Aged.—In referring to "the aged," the literature generally makes use of the age of 65 as a lower limit. Old Age and Survivors Insurance benefits have until now begun at 65 for both men and women, and as a result it has been possible to accumulate a certain amount of information on persons of this age and over. Technically it is evident that decline is neither uniform in all individuals nor for all processes and functions within the individual. Quite apart from pathologic changes, variations in the rate and character of declines appear.[29]

Home Care.—Finally, home care has been defined as "those organized [medical care] programs having centralized responsibility for the administration and coordination of services to patients and for providing at least the minimum of medical, nursing, and social services, essential drugs, and supplies."[14]

SUMMARY OF ESTIMATES OF THE MAGNITUDE OF THE PROBLEM OF CHRONIC ILLNESS

Prevalence.—A succinct paper on the magnitude of the problem, "The Overall Picture of Long-term Illness" by Dean W. Roberts, was published in this journal.[25] Here and elsewhere it is noted that there were approximately 5.3 million people in 1950 who had long-term disabling chronic disease or impairment. There were an additional 23 million people whose impairments resulting from chronic disease, injury, or congenital anomaly were deemed to be minor or nondisabling. Thus, based on the estimated numbers of persons disabled for more than three months, about 3½ per cent of the total population of the United States suffers from disabling long-term chronic disease or impairment.

Distribution by Age and Sex.[30]—Among persons under 45 years of age the proportion is 1.3 per cent. It rises to 6 per cent in the 45- to 64-year age group and among persons 65 years of age and older it is 17 per cent. It is interesting to note that at 55 to 64 years of age, two-thirds of those with illness of over 3 months' duration are male.

Incidence.—Data are available from two sickness surveys made by or in cooperation with the United States Public Health Service during the period 1928-1943. These studies concluded that 13 per cent of all illness was due to chronic disease and that chronic disease was responsible for nearly one-fourth of all cases hospitalized.[30]

Number of Patients in Institutions.—About 1.1 million long-term patients are in long-term institutions on any given day. Nearly two-thirds of them—about 710,000—are in long-term mental, tuberculosis, and chronic disease hospitals. About 155,000 deaf, blind, feeble-minded, epileptic, etc., are in homes and schools for the mentally and physically handicapped. Another 235,000 disabled persons are in nursing and convalescent homes and homes for the aged and dependent.[30]

The Number in Hospitals.—In 1952, among the nonfederal general and allied special hospitals, long-term hospitals (average length of patient stay of 30 or more days) accounted for 13 per cent of the total days of care, as shown below:

	Annual Days of Care	
	Number	*Per Cent*
All hospitals	161,697,192	100.0
Small, short-term	80,375,190	49.7
Large, short-term	60,037,755	37.1
Long-term	21,284,975	13.2

The exact number of long-term patients in institutions is not known since data on chronic patients in short-term hospitals are too scarce to warrant estimates.[31,32]

Institutions for the Mentally Ill.—During the fiscal year 1953, 1,303,884 patients received diagnostic treatment and/or follow-up services in 576 mental hospitals, in 388 psychiatric services of general hospitals, and 212 institutions for mental defectives and epileptics, according to the census of patients in mental institutions made by the National Institute of Mental Health. The predominantly long-term stay of patients in these establishments is by now well known. The distribution of patients in the three types of facilities during 1953 is: mental hospitals, 75 per cent; institutions for mental defectives and epileptics, 13 per cent; and psychiatric services of general hospitals, 12 per cent.[30]

Institutions for the Tuberculous.—In April, 1954, there were approximately 118,000 tuberculosis patients hospitalized in the United States. About 95,000 were in 690 tuberculosis hospitals and other hospitals with assigned tuberculosis beds. In addition, an unknown number (estimated at 1,000) of patients with tuberculosis were in 405 hospitals that accept such patients but do not have at least five beds assigned specifically for their care. Another 22,000 tuberculous patients were in mental hospitals and in nonfederal penal institutions.[30]

Other Facilities.—The 1950 census enumerated about 297,000 persons in nursing and convalescent homes, and homes for the aged, but the data are recognized as being incomplete.[33]

As of April 1, 1950, 20,999 persons were reported to be in homes and schools for the physically handicapped.

VOL.
7
1958

Home Care Programs.—As noted above there were estimated to be fifty Home Care programs in the United States in 1952. How many patients were served through these programs is not known.

Further Information is Needed.—It is apparent that no clear picture is available of the total extent of chronic disease in the United States, although the number so afflicted is obviously large. There is need for current information on a nationwide basis, if the problem is to be faced on a national level. It is anticipated that the impending National Health Survey will provide much of the information needed. The survey has as its purpose the obtaining of "accurate and current statistical information on the amount, distribution and effects of illness and disability in the United States and the services received for or because of such conditions."[34,35]

PLANNING FOR THE CARE OF THE CHRONICALLY ILL

This section deals with the following: (1) some observations on the general principles of planning; (2) contributions made by national health agencies to planning; (3) influences of state governments on planning; (4) activities on the local level; and (5) practical examples of planning on a local level.

Observations on the General Principles of Planning.—The principles of planning for the chronically ill do not differ from the principles involved in planning any other program. Planning has been defined as working out in broad outline the things that need to be done and the methods for doing them to accomplish the purpose of the enterprise.[36]

"In a free society, those functions that require planning inevitably encounter complicated value judgments and decisions. The complexity arises from the effect of planning, as a social process, on the fundamental tenets of a free society. Planning involving more than one person or group of persons will in some way predetermine the course of action of others, and conversely, in accepting the guiding force of a plan the individual divests himself of complete independence of decision and action."[37]

In spite of our belief in a free society we recognize that conflicts between the right of freedom for the individual and the rights of communities may require the placing of limits upon personal freedom for the good of all. "We also recognize that adherence to a traditional or dogmatic concept of personal freedom is untenable in a changing social structure and that no social structure that does not accept change can long survive."[37]

Planning for the chronically ill involves (1) determining the needs of the population to be served; (2) evaluating the current and potential contributions and requirements of each facility, and each professional and technical group; and (3) constructing a plan of action with respect to the functions of each and for necessary new developments.

Contributions Made by National Health Agencies to Planning.—Major contributions to national planning for the chronically ill have been made by the American Medical Association, the American Hospital Association, the American Public Health Association, the American Public Welfare Association, and the United States Public Health Service.

In October, 1947, a joint statement was issued by the American Hospital Association, the American Medical Association, the American Public Health Association, and the American Public Welfare Association entitled "Planning for the Chronically Ill." The statement resulted from the work of a joint committee of the four organizations and was approved by the governing board of each Association. It emphasizes that there is a great need for comprehensive planning to insure that the widespread interest in chronic disease is channeled into sound and effective activity.[38]

As a result of their considerations under the leadership of Dr. James R. Miller, a trustee of the American Medical Association, the joint committee constituted itself as the Interim Commission on Chronic Illness in November, 1948. The Commission decided on three main objectives: "To gather and transmit information on current activities and plans designed to cope with the many-sided problem of chronic illness; to make or have made new studies needed to provide a sound basis for planning in this field; and to formulate suggested programs of action by national, state and local agencies and groups."[39]

VOL.
7
1958

The first national conference initiated by the Commission was devoted to the preventive aspects of chronic disease. It was held in Chicago in 1951. The conference stressed the need for additional research, including research on screening tests and mass screening programs. It outlined general criteria for evaluation of screening. It concluded that there is an impressive amount of knowledge physicians can apply in preventing the occurrence of chronic disease, and it gave in detail ways in which the medical profession can use this knowledge to good effect in the community. It also recognized the need for education of the public.

The second conference, The National Conference on the Care of the Long-term Patient, was held in Chicago in March, 1954.

Later, in 1954 and 1955, the Commission on Chronic Illness made a number of recommendations, several of which relate to planning. The Commission felt strongly that while adequate institutional facilities were necessary in all communities, the greater emphasis should be placed on planning for care in and around the home and for the development of the required services and of methods to acquaint professional groups and the general public with the availability of the services.

It was further recommended that communities plan for additional acceptable beds for those patients who cannot benefit further from active medical treatment but who still need skilled nursing care in an institutional setting.[40]

The Influence of the Federal and State Governments on Planning.—Planning for the care of the long-term patient has been given impetus by federal grants which have been appropriated for use by the states on a matching basis. This has made planning mandatory. For example, the funds available to states under the Hill-Burton Act and Wolverton Amendment for the construction of medical care facilities, including chronic disease facilities, have required planning on all levels. The same requisites apply to funds made available for services for crippled children, vocational rehabilitation, and the various welfare categorical aid programs.

On a state level, planning for the care of the chronically ill has relatively more importance than has planning for the acute patient. This is particularly

true in low-population states where no one county may feel that it needs or can afford facilities for long-term patients.

Planning for the regulatory and licensing functions of state agencies is another important activity of state government. State Advisory Commissions can be influential in planning for the development of resources for the chronically ill. For example, approximately twenty states representing over one-half of the country's population have established official commissions or state-wide committees on aging, and others are moving toward such action.

Conferences sponsored by the states have focused attention on the need for planning.

Activities on the Local Level.—Activities on the local level are innumerable and varied. Councils of social agencies, medical societies, health departments, welfare agencies, recreation departments, boards of education, church and fraternal groups, other nonprofit organizations, unions, even housing authorities, participate to a lesser or greater extent in planning for the long-term patient on the local level.

Planning on a community level is as difficult as it is in a state and/or the nation but in a slightly different way. Not only is it easier to be objective about a larger area but also those working at state and national levels usually have had prior experience in planning and the processes involved.

General procedures for community planning are given below.

Practical Examples of Planning on a Local Level.—There are excellent references in the literature on how to plan for the care of the patient with prolonged illness. Dr. Leonard Mayo has suggested a set of general procedures, which include the organizing of a community-wide committee to study the whole problem of chronic illness. Such a committee should bring together facts on the extent and character of the various existing resources for care; should list the needs of the long-term patients in the area and the kinds of services, facilities, and personnel required to meet those needs; and should determine how a unified program to meet the needs could be financed and administered.[41-43]

Another reference is an example of a guide to planning for a particular service—a rehabilitation center, in this instance. Rehabilitation itself is described, and a thorough understanding of the process of rehabilitation is emphasized as being basic to planning. A guide to program design is given, including the sources of disabled clients, trained staff, financial support, and the specific rehabilitation services to be provided. The scope of the program is discussed, including such services as medical, psychologic, social, and vocational.[44,45]

A third reference is to the Public Health Service Monograph No. 35: "A Study of Selected Home Care Programs."[14,46] If a Home Care program is planned, the following points should be considered, regardless of the organizational pattern that may develop in a community.

(1) Assess the community need via the number of patients in hospitals and other institutions, on waiting lists, at clinics, and at home who could benefit from such a program.

(2) Explore and evaluate the community's resources.

(3) Plan the program.
   a) Establish general and technical advisory committees to consult with the program director on program planning, formulation of policies and procedures, and evaluating the effectiveness of the services.
   b) Define the objectives of the program.
   c) Define the types of patients to be served.
   d) Determine the services to be furnished.
   e) Establish a plan for providing services to patients, designate the administrative institution or agency, and secure formal agreement from cooperating agencies.
   f) Establish methods and techniques for interchange of information to assess coordination of services.
   g) Establish policies and procedures for the maximum and appropriate use of the service.
   h) Establish a plan for financing.

(4) Establish criteria for acceptance of patients on the program, including medical and social criteria.

(5) Establish an adequate record system.

VOL.
7
1958

ORGANIZATION OF SERVICES FOR THE PATIENT WITH PROLONGED ILLNESS OR DISABILITY

Administrative organization implies the establishment of a formal structure through which work subdivisions are arranged, defined, and coordinated to provide the services needed.[36] There are two main areas of administrative organization. The first involves the organization of services within a community or other unit of population and the second the organization of services within a given agency.

Factors Affecting the Organization of Services in a Community.—General factors affecting the organization of services for the chronically ill in the community include the size of the community, its relationship to other communities in the area, the age distribution of the population, its economic, political, and ethnic characteristics, and the sense of responsibility and interests of its citizens. The morbidity and mortality experience of the population, the existing services, and especially the medical and related services, their interrelationship, adequacy, financial position, past history, and plans for the future are *specific* influences affecting the organization of programs. So far there are no actual differences between the factors affecting the organization of services for the chronically ill and those affecting the organization of any other community services. Only when the services themselves are considered do some of the problems of their organization in a community become apparent.

The thirty needs of long-term patients listed by a committee at the Conference on the care of the Long-term Patient were:[47]

Medical supervision
Drug and diet therapy
X-ray therapy
Surgery
Psychiatric treatment

Rehabilitation
Dental treatment
Social service
Bedside nursing
Physical therapy
Appliances
Training in the use of appliances
Occupational therapy
Training in self-care
Vocational counseling
Education
Religious opportunities
Vocational training
Sheltered work, at home or elsewhere
Personal adjustment training
Homemaker service
Transportation
Financial aid
Assistance in obtaining adequate housing
Foster home care
Legal aid
Convalescent care under medical supervision
Custodial care
Counseling to modify the family's and the patient's attitude toward chronic illness
Friendly visitors or volunteer corps

Leonard Mayo[41] proposes that the following services and facilities might be expected to be developed in a more or less typical town of 125,000 population, which might provide "a good check list for any town, if adaptations are made:"

"*Diagnostic, Evaluation, and Classification Center*

Located in a hospital if at all possible and sustaining close relations with all hospitals in the area, it should provide full diagnostic and evaluation service for the chronically ill and the handicapped, with the cooperation of private physicians who with the hospitals would refer cases to it.

"*Counseling and Employment Service*

This should probably be a part of the diagnostic and evaluation center, though it would be closely related to the board of education and the council of social agencies as well.

"*Treatment Facilities and Services*

Every county should have at least the following facilities and services for chronic patients available somewhere in the county for the benefit of all residents of the county:

1) Medical and dental societies interested in the problem of the chronically ill.
2) Adequate hospitals and departments of health.
3) A program of home care.
4) Licensed nursing homes under public or private auspices, or both, and closely related to the hospitals.

5) A private or county hospital, with a wing exclusively for chronic patients who require hospital care for a protracted period.
6) Home industries and educational programs for those who can carry on a limited amount of work or study at home.
7) Sheltered workshops and special educational classes for those adults, children and young people who cannot meet the demands of regular employment or school."

From the list of needs and from Dr. Mayo's check list, it is obvious that no two communities in the United States are apt to develop identical organizational patterns. Indeed it is not even advisable that they should, since each community is different and the services should be organized to fit the needs of the particular community.

The Commission on the Care of the Long-term Patient recognized the need for a wide range of institutional services and that these services are provided in lesser or greater degree by various types of institutions, including nursing homes, convalescent homes, and homes for the aged. Many communities either cannot afford or cannot justify the cost of maintaining all the personnel or physical facilities involved. The Conference therefore recommended that there be a drastic modification of the functions and relationships of already existing institutions, combined with the establishment of needed services on a regional basis. To accomplish this feat requires great skill and tact on the part of the leadership in the community. Several other shifts in community organizational patterns recommended by the Commission include:[48] increased emphasis on planning for care in and around the home, the organization of more home care programs, clarification of the role of the outpatient department in meeting the needs of the long-term patient, provision of units for long-term care in the general hospital (The independent chronic disease hospital is a second-choice approach to long-term hospital care.), expansion of the general hospitals' facilities for long-term patients, affiliation of nursing homes and homes for the aged with general hospitals wherever possible, and availability of psychiatric care in general hospitals.

Factors Affecting the Organization of Services in a Given Agency.—The basic factors affecting organization within agencies and programs are the legal obligations of the agency, e.g., laws, codes, regulations, articles of incorporation, and by-laws; the public interest ostensibly reflected by the policies established by the Board of Directors; the procedures delineated by the administrator; and the availability of funds and personnel. Of no less importance is the basic philosophy of those persons involved in the organization of the agency and the role it has come to play in the community during the period of time since its inception. The recommendations of the Conference relating to the organization of services in the home and in particular kinds of agencies are pertinent here:

> Services should be organized so that the patient's personal physician participates as continuously as possible in his medical care at all stages of illness.
>
> The outpatient department should encourage the patient to be more independent with regard to helping himself and must be careful not to rob the patient of his dignity and self-respect. It must maintain the patient-doctor relationship, and it must eliminate the fragmentation of patient care.

> Home Care programs should be organized so that they have centralized responsibility for administration, coordinated services, and resources; and they should develop and use the patient-care team to deal with the health needs of the patient.
>
> The larger general hospital should provide a full range of facilities, including units for rehabilitation and units for those needing less skilled care, as well as a chronic disease unit offering primarily skilled nursing services and physical medicine.
>
> Adequate medical supervision of patients is essential.
>
> No institution should exclude patients who can benefit from the care it offers. Conversely it should not admit patients whose requirements it is not prepared to meet. No patient should be discharged from an institution in the absence of a care plan designed to permit the patient to maintain his gains and escape exacerbations.

Special Problems of Nursing Homes, Facilities for the Mentally Ill.—Because of the increasingly adverse criticism that has been received lately by nursing homes, homes for the aged, custodial institutions, and other similar agencies, the pertinent organizational problems are noted here in detail.

It is felt that while many of these institutions are rendering excellent services, too many are operating unsatisfactorily. The only way they can fulfill their role acceptably is to equip themselves adequately and to become properly aligned with other community resources serving the chronically ill. The Commission on Chronic Illness feels that individual physicians, organized medicine, and hospital staffs should help to bring about the necessary reforms.

The Commission on Chronic Illness endorsed and commended the nursing home standards recommended by the National Social Welfare Assembly's Committee on Aging in 1953 and the suggested procedures for establishing and maintaining them.[49] Through educational programs and proper exercise of their jurisdiction, licensing, and standard-setting authorities can effect great improvements in physical facilities and care in nursing homes and related institutions. Recent legislation and the knowledge resulting from recent studies have produced an unprecedented opportunity for progress in this field.[50-52]

Two guides have been prepared by the United States Public Health Service, one by the Division of Hospital and Medical Facilities, "Planning and Equipping the Nursing Home"; and the other by the Equipment Planning Branch, "Equipping the Nursing Home." The former gives specific recommendations for plans for nursing homes, including the architectural program and special consideration of the patients' safety and comfort. The latter guide is an equipment and supply check list giving estimated costs.[53,54]

There are numerous descriptions in the literature of specific ways in which communities organized their facilities to solve their local problems. An example is "Built for the Ages—65 and Up." This institution (Rest Haven, Independence, Missouri) was opened Jan. 1, 1956, completely equipped, at a cost of $500,000. It has 75 beds, and operating budget of $500,000, and a cost per patient per day of $8.00. It is across the street from a large general hospital which provides housekeeping services and certain medical services. Student nurses from the hospital receive part of their education at the institution. It is primarily for old

persons and "terminal" patients, with some minimum provisions for long-term mental patients.[55-58]

In regard to mental hospitals, the Commission recommends that: "Every mental hospital should have an adequate therapeutic program, the primary goal of which is rehabilitation of the patient and prompt restoration to community life as soon as the need for social restraint is over. A second goal is to improve the lot of the patient who has to remain in the hospital for a prolonged period.

"Long-term mental patients, both those who present merely the mild confusions so often found among the elderly, and the patient whose psychosis has burned itself out, can be adequately cared for in a carefully selected custodial setting in public or private nursing homes. The stigma attached to the commitment to mental hospitals can be avoided. Experiments are under way to determine how best to care for these inactive or subclinical mental patients."[59-61]

VOL.
7
1958

The lack of mental health services, especially preventive services, is frequently mentioned in the literature. The problem of the senile, nonpsychotic patient is particularly difficult, since frequently no care is available for these persons except in the overcrowded state mental hospitals. Two encouraging developments have been the New York State Community Mental Health Act, whereby the legislature provided matching funds to localities for the establishment of mental hygiene clinics, and the CIO "Union Counseling Plan," through which workers are directed to the proper agency to help them solve their family problems.

Organization of Home Care Programs[14,46].—The study group concerned with Home Care of the Conference on the Care of the Long-term Patient felt that there is an increasing realization of the fact that home care should represent but one phase of a comprehensive medical care program. The expressions "care at home" and "home care" have been used indiscriminately and frequently have no resemblance to an organized home care program.

The various responsibilities for the administration of eleven home care programs is described in "A Study of Selected Home Care Programs." Eight of the programs were based in medical agencies and were administered by physicians; two were in social agencies and were administered by social workers; and one was in a nursing agency and was administered by a public health nurse.

A number of factors appeared to affect the location of the administration of the program. In Philadelphia, for example, the Visiting Nurse Society was requested by the Health and Welfare Council to assume administrative responsibility for a home care program, because this Society was already providing nursing, physical therapy, and occupational therapy services to patients at home and was in a position to develop and extend these services. In Richmond, the health department administered the program because it had the legal responsibility for providing medical care to the city's indigent and medically indigent. In any given community, the most important of the many factors that determine which agency will assume the responsibility for a home care program are the sources of leadership and the readiness to develop such a program.

The type of personnel responsible for program operation seems to be determined by the kind of agency that administers the program.

Six of the programs had advisory committees which assisted the directors in different phases of administration. Three of these six programs were not administered by physicians. However, they had active medical advisory committees to assist the directors on the medical technical aspects of their programs. The membership of the other advisory committees ranged from broad representation from the community at large and from health and welfare agencies to those including only representation from the field of medicine.

The functions of the committees varied from making specific technical recommendations to making recommendations for broad community planning. In Richmond, for example, prior to the establishment of the Home Care program, an advisory committee representing physicians, nurses, social service workers, and an interested citizenry was appointed at the request of the director of public health to review the health department's existing home medical service and to make specific recommendations for a more comprehensive home medical care service. Since the establishment of the program, this committee has continued to function in an advisory capacity to the director of public health and the director of the Home Care program and to participate in program evaluation.

The consensus of directors of home care programs was that advisory committees played an important part in assuring a well-balanced and coordinated program and in securing community understanding and support. The nonmedical administrators considered medical advisory committees essential in planning for the medical aspects of the program, for interpreting the program to the community, especially to community medical groups, and in safeguarding the quality of medical care.

Perfect organization exists only in the minds of men. What one authority will conceive to be the ideal arrangment of services in a given community or hospital may well differ from the opinion of the next authority. The optimum pattern of organization changes. The ability to foresee, adapt, and contribute to change is essential on the part of the community governing boards, administrators, and staff. It can be assumed that where the organization of services is poor the long-term patient will tend to suffer more than will the short-term patient.[62-64]

COORDINATION AND INTEGRATION OF SERVICES FOR THE CHRONICALLY ILL

Coordination and integration of *services* per se are a responsibility of the person directing the particular program in question. Coordination and integration of services for a particular patient can be facilitated by the administrator, but the direct responsibility for this activity belongs to those working with the patient. It is quite possible to have well-coordinated services in so far as the mechanics of program operation are concerned and at the same time leave the patient with a sense of confusion as to what is happening to him. Such programs are known as administration-centered as contrasted with patient-centered programs.

Scheele, in his address "Federal and State Partnership: Problems in Administration, Research and Practice," emphasized the importance of cooperation and teamwork among all members of the health programs, regardless of the setting in which they work. "Learning to cooperate is one of the great problems before

us and the extent to which we seriously explore and develop techniques of cooperation will be the real measure of our fulfillment of the trust we hold. This is true for all of us, whether we be general practitioners, specialists in private practice, hospital administrators, dentists, nurses, or public health administrators. . . . There should be harmony of interests . . . this assignment calls for imagination, persistence, and patience. All of the health professions need especially to bring to bear creative thinking on how to go about developing cooperative action for the prevention of chronic disease . . ."

Coordination of Programs Themselves.—The above statement applies equally well to the coordinating of programs for the chronically ill and to the coordination and integration of services within programs. One of the subjects of particular current interest conserns who should do the necessary coordinating. The Commission on Chronic Illness is of the opinion that each state government should designate an agency to coordinate and develop programs for the care of the long-term patient. The functions of this agency would include consultation and financial assistance to local communities in developing and improving their own services, preparing a mechanism whereby rural areas could draw upon the resources of urban centers, and the developing of administrative techniques.

The Commission recommends that within each community a means of coordinating services for the chronically ill be established, whether such means be formal or informal. National voluntary health agencies should intensify their efforts to encourage their local affiliates to recognize the common denominators in the care of the long-term patient regardless of diagnosis.

Coordination and Integration of Services Within Programs.—The importance of adequate medical supervision and of a smooth and ready transfer of patients out of an undesirable setting into the most appropriate surroundings are often emphasized. This leads, in turn, to the need for the physician to equip himself with knowledge of new methods of treating long-term illness and makes it necessary for him to learn how to use other health professions in the care of the patient and to become familiar with community resources that offer the various services that the patient may require.

Mayo believes that a reorganization of services, together with the development of sufficient program flexibility that a patient may easily move from one service or facility to another as conditions warrant, may well mark the community and hospital efforts of the next decade as differing from those preceding it.

Counselling or referral services are considered to be indispensable to the effective use of community resources since bare factual information, while valuable, is insufficient. Patients must find the services most nearly suited to their needs, and frequently this requires competent consultation and advice. Formal case conferences are necessary, including a review of the patient's record, inclusion of the patient in the conference when indicated, and, above all, the provision of an opportunity for every member of the health team to contribute his knowledge and skill in the care of the patient.

The frequency of these formal conferences varies in different programs, but case conferences are in general more frequent in teaching programs than in others.[66-69]

VOL.
7
1958

Coordination and Integration Are the Essence of Home Care Programs.—Home Care programs depend more on effective coordination and integration of services than do any of the other services needed by the chronically ill.

"Hospitalization should be immediately available to every patient . . . every patient on home care should have access to any diagnostic or therapeutic services available in a general hospital, including those of the out-patient department . . . continuity of relationship between the home care patient and each of the various professional personnel caring for him is highly desirable and scheduling of assignments should be designed to promote this . . . additional services [besides those of a physician, a nurse, a social worker, physiotherapists, and occupational therapists] that should be available include consultation in all medical specialties; laboratory facilities; provision of medications, appliances and supplies; housekeeping and homemaking; transportation of patients to and from their homes; dietitian services; speech therapy; and home teaching." These services will not be required for every patient, but making the appropriate service available to the particular patient at the right time is the keystone of the home care program that is oriented in the direction of rehabilitation.[70]

FINANCING

The financing of medical care in general is a major problem to the people of the United States, and one of its most difficult parts is that of paying the cost of care for the chronically ill. It is manifestly impossible to give more than a bare outline of the essentials in the limited space available here.

Present Methods of Paying for Medical Care.—Serbein, in his book *Paying for Medical Care in the United States* divides the methods by which the costs of all medical care are met into three categories: consumer, business, and governmental expenditures. Consumer expenditures include the various prepayment insurance plans and the direct use of income, savings, or loans. Under business expenditures, he includes workmen's compensation, industrial health facilities, and contributions to group insurance. Listed under governmental expenditures are the monies spent by federal, state, and local governmental units.[71,72]

The amounts spent by each are not known even roughly except in the case of governmental expenditures which, in 1950-1951, were estimated to be 32 billion dollars. Serbein cites an estimate made by the United States Department of Commerce for personal consumption expenditures in the United States for medical care in 1951 of 9 billion dollars, but comments that 10 billion dollars might be a more correct estimate. In addition, the indirect costs of illness, such as loss of income, were estimated at more than 15 billion dollars at that time. While this may not represent a large percentage of national income, it is obvious that in some areas and to some families illness has been a financial catastrophe.

Some of the problems related specifically to financing care for the long-term patient are concerned with how people can be helped to pay for the services they need in the long-term illness; how those groups in the population for whom private insurance is not practical can pay for care; what the potential is in the further development of present methods of financing; the need for special consideration for methods that will encourage the use of the right service for the

right patient at the right time; the need for review of methods of financing construction and maintenance of facilities; and the need for special provisions for financing education of personnel to care for the chronically ill.

Consumer Expenditures.—

Prepayment plans: The growth of individual and group prepayment plans in the last ten years has been phenomenal.[73] In July of 1953, there were estimated to be over 87 million persons (57 per cent of the population) enrolled in voluntary health insurance and protected against part of the costs of hospital services, and over 74 million people who had some surgical and other medical insurance. It is estimated that roughly 70 per cent of the population is eligible for group coverage and that 9 per cent of the population can be excluded as potential investors on the basis of being in the armed forces, on public assistance, inmates of institutions, and persons past sixty-five years of age who are not working and are not receiving public assistance.[74]

VOL.
7
1958

Serbein lists the strengths and weaknesses of the present prepayment plans:

Strengths: (1) The insurance method is a practical way of prepaying a large part of medical costs. (2) The use of service benefits has encouraged better utilization of medical services, improvement in the quality of medical care, and increased prevention and early diagnosis of disease. (3) Medical care insurance is national in character, and is available in one form or another to all social and economic classes. (4) The insurance method is flexible enough to take regional differences into account in the development of contracts. (5) More than half the population of the United States is now covered by some type of prepayment plan. (6) Costs are relatively moderate.

Weaknesses: (1) Only a few comprehensive plans provide diagnostic and prevention services. Illnesses such as tuberculosis and mental disease are generally excluded, and rarely is there protection against a financial catastrophe caused by illness requiring prolonged medical care. (2) The high-income groups, whose bills for medical services are apt to be large, do not receive adequate protection. (3) Exclusions in contracts restrict their usefulness. (4) Cash payment plans often pay too small a part of the medical bill and involve high administration costs. (5) Contracts that provide cash for physicians' services may encourage charges by physicians that are higher than usual. (6) The cost of prepayment plans is such that low-income groups cannot afford them. (7) There are too many different types of organizations selling medical care protection. (8) Because most contracts are sold without a deductible clause, insurers must handle a large number of small claims with an attendant high administration expense.

Serbein feels that the current figures on enrollment indicate that comprehensive benefits are available to only small segments of the total population. Further expansion appears to be limited by state laws of incorporation, judicial decisions, and by the necessary reorganization of medical services which comprehensive benefits entail.

In the specific field of long-term care, the five types of benefits utilized by one large consumer group (unions and their members), and the limitations thereof, are of interest.

Indemnity insurance: The most serious limitations of these plans are that most types of long-term illness are excluded, and that no provision is made with respect to the form, duration, and continuity of the medical service for which a cost indemnity is paid.

Blue Cross and Blue Shield: Blue Cross limits the duration of hospital stay, generally excludes most of the serious chronic conditions, and provides only rarely for special nursing care, special medicines, and appliances. Blue Shield largely limits itself to paying the cost of the physician's care of a hospitalized illness.

Diagnostic centers and ambulatory clinics: These provide prevention, diagnostic care, and therapeutic care on a continuing basis to ambulatory patients but generally exclude services in the hospital and home.

Service programs including rehabilitation: The United Mine Workers' Welfare and Retirement Fund provides a broad range of medical, hospital, and rehabilitative services, much of it by arrangement with existing hospitals, clinics, and rehabilitation. The program strongly emphasizes rehabilitation and the retraining of disabled workers.

Comprehensive medical care programs: Several unions provide this protecton through operation of their own health centers, while other unions work with group participation in comprehensive prepayment plans or employer-sponsored plans. One of the most important features of these comprehensive programs is the emphasis on preventive medicine.

Business Expenditures.—The most substantial contribution made by industry toward financing the cost of long-term disability is through Workmen's Compensation, laws covering which are now in effect in all states and territories of the United States.

Another contribution made by industry is the maintenance of in-plant and out-of-plant medical services, although it has been estimated that of 2.7 million work establishments, only 3,000 have in-plant health services. In a survey conducted in 1951 by the National Association of Manufacturers, covering 3,589 member companies employing 3.3 million workers, 56 per cent of the responding companies used in-plant medical services, while 85 per cent used out-of-plant medical services. Some, of course, used both.

Governmental Expenditures.—Serbein states that no comprehensive report on federal, state, or local activities in the field of medical care payments has ever been published. Because at the state and local levels the variations are so great and the agencies involved so numerous, obtaining reliable and unduplicated data would be almost impossible.

The Study Group on Financing of the Conference on the Care of the Long-term Patient concluded that federal financing has certain inherent advantages in so far as the mobility of the population makes the problem one of national concern; the federal government has the most equitable tax system and complete access to the country's resources; and federal financing makes possible an adequate program throughout the country.

On the other hand, the Study Group felt that a uniform program enforced by federal participation would result in standards inferior to those that many

states would establish for themselves, even though it would undoubtedly assure higher standards than some states would set. A danger was also seen in the possibility that a federal government at times might neglect the social services.

At the other extreme, a locally financed program presents difficulties in terms of restrictions in services and in the areas in which they are offered, due to local inertia, restrictions in local tax powers, and inequalities in the local tax base. State financing seems to be preferable because, while still heir to the disadvantages of local inertia and inequalities in the tax base, it offers a reasonably large jurisdiction, with greater tax powers than those of local jurisdictions, and with more claims on resources than are found at the local level.

Problem Groups.—It seems apparent from the above discussion that no matter what devices are fashioned for the general public to meet the cost of medical care, there will continue to be certain problem groups for whom the general solution will not apply. This, of course, will be even more true of long-term care for these groups: the aged, the unemployed, the disabled, the low-income group, public aid recipients, and to some extent the rural population and employees of small firms.

VOL.
7
1958

Studies of financial data relating to the aged provides sufficient evidence to indicate that many of them cannot afford even limited protection, and that other other means of financing must be sought. Two interesting possibilities have been suggested, one involving the government in payment of insurance premiums for old persons, and the other requiring a person to purchase paid-up hospital insurance during his working lifetime, which would provide for hospitalization during the period of retirement. So far, no real solution is at hand, and much further study is required.

The unemployed probably do not constitute a separate group from the viewpoint of medical care insurance. To the extent that they are completely without purchasing power, or possess limited means, they fall into the category of the indigent, or the medically indigent.

Serbein concluded that insurance is probably not the best method of providing payment for medical care for the indigent, as far as our present knowledge is concerned. Because our information on the medical care problems of the indigent or medically indigent is so limited, the attempt at a solution becomes extremely difficult, but it is apparent that the lack of purchasing power of this group requires that government continue to meet the cost of their care.

While the standards of medical care in rural communities have risen, problems are still present involving the relatively low-income levels, the lack of adequate professional personnel, and the general failure to understand the needs of the rural population. There is some hope that insurance can be made available to rural communities through group enrollment in prepayment plans made available through farm bureaus.

No figures are available to show the extent to which employees of small firms are able to meet the costs of care, but it is surmised that their medical bills are paid for the most part from current income, savings and loans, or any combination of these resources.

There are eleven specific recommendations of the Commission on Chronic Illness concerning financing care for the long-term patient. The patients' prob-

lems are described as twofold: (1) maintaining income, and (2) payment of medical and related expenses resulting from the illness. The methods currently in use for meeting these needs are described, and it is urged that new methods be explored. Better use of available funds is advocated as is wider use of voluntary health insurance. Insurance companies and plans are urged to expand the "number and coverage of eligible beneficiaries" and to "extend the kinds and amounts of benefits." It is recommended that old age and survivors insurance be extended to include maintenance for persons whose loss of income is due to long-term illness or disability. Further expansion and modernization of industrial health plans, workmen's compensation systems, and union health plans are advocated.

"The primary function of philanthropy in financing the costs of long-term care is and should continue to be that of strategic investment of venture capital."

Public financing, it is emphasized, is inadequate, whether for long- or short-term general hospital care of the long-term indigent and medically indigent patient, or for mental and tuberculosis hospital care, nursing home care, rehabilitation services, or care at home.

Finally the Commission recommends that increased amounts of public and private funds be devoted to measures to coordinate the services needed by long-term patients, that expenditures for research be expanded, and that a vigorous public education program be launched to achieve the recommendations.[75-83]

The Cost of Home Care Programs.—It is frequently pointed out that the motivation for the establishment of a home care program should be a desire to plan the best possible care for the patient and not to save money. Because of the multiplicity of accounting procedures used in connection with home care programs and the differences in administration, organization, and services provided, it is hard to tell whether in fact home care programs are less costly than some types of inpatient care. One pertinent observation is that while home care may save the taxpayer the price of the patients' housekeeping services in the hospital, it may become necessary to provide these services to the patient at home. It is probably safe to say that a well-organized home care program is more expensive than the average county nursing home and less expensive than care in an institution that provides a broad range of services. While it is tempting to quote rates per day as experienced in different programs, these figures are singularly misleading unless the programs are thoroughly understood. As a corollary it can be predicted that any community undertaking a new home care program will have an experience that varies from all others, since there will be a different set of resources on which to draw.[84]

Staffing Programs for the Chronically Ill.—The entire health and medical field is facing a severe shortage of trained personnel, but the shortage in personnel equipped to care for the chronically ill is more acute than in other fields. The Commission on Chronic Illness concluded that these special shortages could in part be accounted for by the traditional rejection of the aged and disabled by both the public and the professions, as well as the common professional belief that the care of the long-term patient is uninteresting medically and is unrewarding with respect to patient progress. The hard and frequently distasteful work

in poor and often inaccessible physical plants, with the low pay scales, understaffing, and heavy work loads that characterize employment conditions in institutions for the chronically ill, makes recruitment of personnel for this field extremely difficult.

In 1954, the National Health Council held its National Health Forum on the subject "Changing Factors in Staffing America's Health Services."[85] It was noted that the effort to meet demands for health personnel was something of a Malthusian struggle, for as people are helped to become healthier, they become older and develop more chronic ailments; and not only does the number of people needing care increase, but also when people are exposed to good medical care, the demand grows greater for improved and expanded health programs.

Scope of Personnel Problems.—The National Health Council Forum, in summarizing its findings, agreed that the scope of personnel problems included: (1) pattern of education, (2) costs of education, (3) interprofessional relations, (4) personnel management and administrative practices, (5) utilization, and (6) income levels.

The constant evaluation of practices by agencies was urged in order to eliminate outmoded methods and to change programs.

Personnel Needed.—The commission on Chronic Illness has listed the following personnel needs as essential for the care of the long-term patient: (1) medical management, such as physicians and dentists; (2) nursing and attendant services; (3) specific technical services, such as occupational and physical therapists; (4) spiritual and psychological services; (5) social and economic services, such as trained social workers and vocational counsellors; and (6) administrative and organizational services, such as hospital administrators and various types of public health workers.

The Home Care Coordinator.—Since home care patients do not differ from other patients, no additional training of personnel is required. In this phase of medical care, since teamwork is a particularly significant factor, a coordinator is necessary to assure real continuity of comprehensive care. One member of the team is thus given full responsibility for leadership and integration of services. Many authorities believe this responsibility is best handled by a physician. The coordinator becomes especially important in interpreting the program to the various professional groups and is almost a prerequisite when relationships must be maintained with community agencies. In the San Francisco Home Care Program the coordinator is an experienced and qualified medical social worker. In other programs this function is sometimes carried out by a public health nurse.

A basic reference on America's needs for health and medical personnel is the United States Public Health Service series "Health Manpower Source Book," which gives data on the number of people available in many of the mentioned categories.[86-88]

Measures must be adopted to counteract influences that interfere with the development and maintenance of personnel for the care of the chronically ill, and it is felt that one of the most important of the influences is the attitude of the public. Since what the public knows about the health field and the people who work in it constitutes the basis upon which personnel must be recruited, it is self-evident that a general educational program is required.

Recruitment.—Each of the national, state, and local professional organizations is concerned with and active to various degrees in the recruitment of personnel to their respective fields. More intensive recruitment is indicated, which should begin on a high school level, with vocational guidance into health fields. To be effective, recruitment efforts should be coupled with the upgrading of the professions in terms of increased compensation, improvement in working conditions, and opportunities for continuing education and progressive promotions.

It should be noted, however, that there is an absolute manpower shortage in the United States, and any increased recruitment to the health and medical fields will result in sharper competition for personnel by other fields of endeavor.

Specific recommendations on improved recruitment were made by the Commission on Chronic Illness:[89] (1) Private and public funds for scholarships and stipends to encourage young people to enter schools training health personnel should be greatly increased. (2) Communities should organize active programs to draw back into appropriate employment those trained professional and technical health workers who have left their professions. (3) Agencies and facilities should make more effective use of their personnel. (4) Agencies and institutions should review their programs, with the object of emphasizing restoration of the patient's full potential, using a teamwork approach, since such programs are most likely to attract and hold staff. (5) It should be recognized that job satisfaction must be material as well as spiritual.

Professional Education Should Be Reoriented.—Because the characteristics of long-term illness require that the student gain full appreciation of the factors that affect and are affected by long-term illness, education for some classes of health personnel, particularly physicians and nurses, must be reoriented at undergraduate, graduate, and postgraduate levels. In his training, the student should see the patient in relation to his family and should learn to use community resources in helping to meet the patient's changing economic, social, and spiritual needs. In addition, the various disciplines must receive training in the team approach to patient care, and must gain an understanding of the importance of continuity of care and of coordination of services to patients both in and out of a hospital setting.[90,91]

Simplification of Education for Nurses?—Simplification of educational programs has been suggested as one answer to this problem. This is not necessarily a contradiction of the need for better-educated personnel, provided that more intelligent assignment of personnel can be made. In this latter area there are evidences of change, especially in the nursing profession, but developments are hampered in some respects by laws passed at a time when the level of education of the various medical personnel was very low. An example of this is the study now going on in some states regarding the possibility of changes in the laws governing medical and nursing practices so as to permit the nurse more responsibility in the treatment of the patient.[92,93]

Change in the Emphasis of Medical Education?—Dr. Rappleye points out some difficulties and dangers in changing the emphasis in medical education: "In view of the impact of the many social, economic, administrative, psychologic, and emotional factors upon adequate medical and health services, some individuals advocate extensive revision of the basic philosophy of medical education to

emphasize the social and economic aspects of medical care. These are important features of health services and hence of professional education, but they must supplement, not substitute for, the necessary fundamental training in the basic sciences upon which modern scientific knowledge is founded and the future of medical progress, medical care, and public service must depend. It is important that medical education be neither diluted no diverted from the meticulous, accurate training of physicians which has been the foundation of progress in medical education in this country during the last 40 years. The interpretation and application of the social and economic factors in matters of health and disease must be given full consideration in community health matters, but it would be short-sighted and, in the long run, undesirable to weaken sound education of medical, dental, and public health students in the underlying biological sciences."[94-96]

VOL.
7
1958

In this perspective, organized home care programs offer a significant contribution in various fields of education for professional health personnel and, when affiliated with teaching hospitals, provide students with an opportunity for seeing and treating patients outside of the institutional setting, where the effects of the environmental, social, and emotional factors in illness can be observed. To make the experience meaningful to the student and to safeguard patient care there must be conscientious supervision, together with frequent individual discussions and multidisciplined group conferences; and there must exist a planned method of helping students to integrate and understand the significance of their observations.

Home care programs are being used to provide educational field work experience for residents, fourth-year medical students, nursing students, practical nurse students, and social work students. The program of the Massachusetts Memorial Hospital has the unique feature of the team concept at the student level, with medical students, nursing students, and social work students receiving training simultaneously.[97-100]

The Importance of Research in the Field of Chronic Illness.—While much has been said about effective methods of caring for the long-term patient, one of the most important aspects of the problem is that of research. The need for medical research is of course obvious, but no less necessary is the need for administrative and social research.[101,102]

Research for what? Research is needed to provide more precise knowledge of the extent of the chronic disease problem. Keefer suggests that knowledge can be gained by local, state, and national surveys to derive estimates on the number of persons suffering from chronic illnesses and impairments. Information should be obtained in terms of geographic areas, age groups, income levels, diagnoses, duration of the conditions, and potentialities for rehabilitation and self-support.[103-105]

Reference has been made above to the impending national survey. It will undoubtedly answer these questions at least in part. The Commission on Chronic Illness suggests specifically that surveys be conducted to determine the economic burden of chronic disability in terms of time lost from productive activity, the effect on the economic status of the family, and the costs of diagnosis and treat-

ment, including rehabilitation and long-term care, and that the studies should be supplemented by investigation into the adequacy of personal incomes and the availability of community resources to meet these costs.[106]

More research should be done on the effects of social forces on health and disease processes and conversely on the effects of health and disease on social life.

Research efforts must also be directed toward analysis of the natural history of chronic diseases, to discover any genetic and constitutional factors that predispose people to chronic disease as well as to assess the influence of diet, housing, working conditions, and physical and emotional stresses that may play a part in the development of these conditions. Since infirmity and age are not synonymous, research must also extend our knowledge of the aging process to determine what constitutional and environmental factors are associated with a physically and mentally active old age.

Frequent mention is made of the need for studies of attitudes toward health and health services among families and individuals of different ethnic and occupational groups, varying educational and income levels, different geographic locations, and the bearing these factors may have on health status.

Treatment of chronic illness requires more active participation by the patient than is usually necessary in acute illness. It has been noted that those suffering from chronic disease for a period of time become overdependent and display a related negative attitude toward rehabilitation. Research in the factors that motivate people is needed.

The home care program is a community laboratory in which morbidity and mortality may be observed in relation to a number of such factors as cultural background, economic status, and attitude and behavior on the one hand, and the organization and utilization of community resources for health maintenance and preservation on the other. Such circumstances create opportunities for study and research which have received comparatively little attention.

Research in this area may be considered from many different points of view, namely: (1) the adaptation and utilization of skills, techniques, and procedures of the social sciences in dealing with problems of health; (2) effective evaluation of medical care needs in order to develop techniques of organization and administration of health services; (3) the study of individual health problems; and (4) the consideration of educational processes through which the training of properly oriented personnel is to be accomplished.

It is also essential that research in improved and less expensive methods of caring for the long-term patient be conducted.[107] The Commission on Chronic Illness has recommended that demonstration projects and special follow-up studies be directed toward analysis and evaluation of various methods of treatment and rehabilitation and the subsequent status of patients with respect to their capacities for self-support and self-care. Demonstration projects and long-range studies are required to evaluate the effectiveness and costs of various methods of correlating home care, care in hospitals and nursing homes, and preventive, curative, and rehabilitative services in outpatient departments and rehabilitation centers.

Evaluation of Specific Practices and Procedures.—Few states or communities have measured the results of specific practices and procedures. Only by careful observation and study of local programs in various community settings will it be possible to develop reliable criteria for the improvement of current practices.[108]

Medical care: The problem of evaluating medical care itself is a perplexing one. The contribution to quality of care by the organization, medical structure, and administrative practices of a given program are secondary to certain more universal determinants of quality. These include the character of the personnel providing the medical services which can be assessed to some extent by reviewing medical education, medical licensing requirements, and the duration and nature of postgraduate training. Attention may be directed also to the caliber of the physician apart from his technical skills. Methods of remuneration, conditions of work, and certain other administrative considerations that may affect the physician's conscientiousness may be evaluated also.[109-113]

VOL.
7
1958

Hospital care: In addition to these country-wide factors, certain local ones may have even more influence. Principal among these is the control over certain aspects of hospital medical practice, for instance in surgery and obstetrics, that may be exercised by an organized hospital medical staff. Regulations and standards embodied in hospital by-laws and the recommendations of departments of health or voluntary associations, such as the American College of Surgeons or the Joint Commission on Hospital Accreditation, assist the local hospital staff in improving the quality of medical care. Here also the influence of group practice clinics and of medical facilities on their teaching hospital staffs should be noted.

Dr. Myers, Assistant Director of the American College of Surgeons, in his article, "The Audit Makes 'Evaluation' Meaningful," presents a brief review of the use of the medical audit as developed by the American College of Surgeons and the Commission on Professional and Hospital Activities. The method not only has established criteria which are valid and inclusive of the significant aspects of patient care, but it also provides a means of tabulating and correlating data which could not be realized without the use of modern business machines.[114]

Financing research: Financial support is badly needed for more effective research in the care of long-term patients. It should come from a variety of sources—federal, state, and local governments, philanthropic foundations, industrial organizations, civic groups, and educational institutions. Voluntary health agencies do and can further contribute to financing of research and demonstration projects. Further pooling of funds by these agencies for common purposes is advocated.[115]

The role of government in research: Some of the problems currently under discussion concern the role of government in research: whether government is going to plan research only or actually do it, whether government will subsidize "wholesale or retail research," and whether government should be only a correlating or coordinating scientific influence or authority.

In discussion of the view that governmental responsibility in research should be limited to certain fields it is noted that yearly there is an increased blurring of lines of demarcation between health matters of public and those of private concern. "If there be any field of activity which is the proper province of the

national government, it is the encouragement of research." The fear still exists, however, that federal funds inevitably mean federal control and direction and an inferior product.[21]

Other problems in the research field: The importance of basic medical research to progress in the prevention and treatment of chronic illness cannot be underestimated. That social phenomena play an important part in the chronic disease field should in no sense blur the recognition of this fact. There is a repeated emphasis on the need for a team approach to the research problems of the chronically ill, the multiple difficulties inherent in this approach, and the necessity of overcoming them.

The interrelationship of research and education and their financing is frequently mentioned, as is the time lag between the findings of research and their clinical application.

SUMMARY AND CONCLUSIONS

Some of the patterns and trends in the administration of health and medical care programs for the care of the long-term patient have been reviewed, with particular reference to home care programs.

Health and medical care programs have grown with the nation. They reflect the development of the country from a relatively simple to a complex social structure. Patterns of medical care in general, and methods of care of the long-term patient in particular, have been changed by developments in medical science and in medical education, by the wars, by shifts in social organization, and last, but not least, by alterations in the value the men and women of the country give to their own lives and to the lives of others.

With the increase in the length of life has come the realization of the necessity of better care of the older person and for the person who when young or in his middle years is stricken with a long-term illness. Adequate care of the chronically ill has come to be thought of as inseparable from general medical care. Programs for the prevention and early diagnosis of chronic illness are increasingly effective.

Long-term patients should be cared for in or as near to a general hospital as possible so that prompt and comprehensive treatment may be effected; and the patient should go home as soon as it is feasible. When he is at home the community should provide the patient the protection and encouragement he needs to complete his rehabilitation.

Clear definitions of words and terms facilitate progress in solving problems in the administration of programs for the long-term patient. Wider application of existing definitions and clearer definitions of expressions currently in use is necessary. Definitions of selected terms are quoted.

A second factor complicating the estimation of the problem is the absence of a recent nationwide survey. The figures available on the extent of chronic illness in the nation as a whole are estimates. In 1950, 3.5 per cent of the total population, or 5.3 million persons, were estimated to have a long-term disabling chronic disease or impairment. Estimates are cited for the year 1952 of the number of these persons in the different age groups, the lengths of illness, and the number of services provided.

For the purposes of this review, administration of programs for the care of the long-term patient were taken to include planning, organization, coordination and integration of programs and their financing, staffing including staff education, and evaluation including research.

The characteristics of planning and certain of the problems involved in planning for medical care programs generally are reviewed. Guides to planning at the national, state, and local levels include recommendations made by, and the policies of, agencies and organizations, resulting from conferences, meetings, and legislation. Their general effect is described, and specific recommendations relating to planning are quoted. Three examples of guides to planning are given: (1) the functions of a community committee on chronic illness; (2) a guide to planning a rehabilitation center; and (3) the points to consider in planning a home care program.

OL.
7
958

The different factors affecting the organization of programs for the chronically ill are described. The wide range of services needed by these patients has resulted in a multiplicity of organizational patterns throughout the country. While each agency must think through its own organizational problems, there exist general organizational guides. Those noted here in any detail concern the organization of nursing homes, homes for the aged, custodial and similar institutions, mental hospitals, and home care programs.

Coordination and integration of programs for the chronically ill is of paramount importance. Where they do not already exist, coordinating groups are needed at the local and state levels. Flexibility and fluidity must characterize patient care so that it will fit the changing needs of the patient. The importance of staff conferences and of adequate recording and reporting are described in a home care setting.

The present methods of paying for medical care are considered in three sections—consumer expenditures, business expenditures, and governmental expenditures. There is agreement that no matter to what devices the general population may resort in order to pay for its medical care, the aged and chronically ill will continue to present special problems to which the general solution will not apply. The problems in financing care for these and related groups are reviewed, as are certain recommendations for their solution including the limitations of home care programs in this regard.

Shortage of staff results from lack of funds for education of medical and allied personnel. The kinds of personnel needed are reviewed. The activities of national, state, and local professional organizations in recruitment are noted briefly. With the existing personnel shortages, intelligent use of personnel, together with continuing evaluation of administrative methods and program operation, is essential. Higher salaries and better working conditions are necessary to attract the personnel needed to care for the chronically ill.

Without adequate education of personnel the most carefully developed program may be ineffective. At the present time the philosophy of the educators of health and medical personnel is undergoing a basic change. The change is essentially a result of the fact that the existing body of knowledge available cannot be comprehended by any one individual but only by a group. By working

as a team the members of the different professions provide to the patient the help he needs. It appears evident that if the student is eventually to work as one of a group, his education should be planned accordingly. Field work experience in a home care program can provide medical students, residents, student nurses, and social workers in their graduate years with such an opportunity.

Research in the field of chronic illness is particularly important at the present time because of the lack of information needed for sound program planning. The particular areas in which research is needed are reviewed. Special reference is made to the potential value of the home care program as a community research laboratory, to the problem of the evaluation of medical care per se, to the financing of research, and to the importance of conducting both basic medical research and research in the social phenomena related to chronic illness.

Finally, it is apparent that while the patterns in the administration of health and medical care programs for the chronically ill are varied, in their variety lies strength, and the trends are toward improvement in the quality and an increase in the number of programs.

The authors are indebted to Miss Phyllis C. Hecker, M.P.H., for her assistance in the preparation of this paper.

REFERENCES

1. Bluestone, E. M.: The Principles and Practice of Home Care, J.A.M.A. **155**:1379, 1954.
2. Cherkasky, M.: Home Care of Chronic Illness, J. CHRON. DIS. **1**:346, 1955.
3. Chronic Illness, Digests of Selected References. Pub. Health Bibliography Series, No. 1, PHS Publication No. 10; U. S. Govt. Printing Office, Washington 25, D. C., 1951, 216 pp.
4. Chronic Illness, Digests of Selected References, 1950-1952. Pub. Health Bibliography Series, No. 1, PHS Publication No. 305; U. S. Govt. Printing Office, Washington 25, D. C., 1953, 261 pp.
5. Selected References on Aging, an Annotated Bibliography, 1955. U. S. Dept. Health, Education and Welfare, Committee on Aging; U. S. Govt. Printing Office, Washington 25, D. C., 1955, 61 pp.
6. Einstein, A.: Out of My Later Years, New York, 1950, Philosophical Library, 282 pp.
7. Hospital Care in the United States. Commission on Hospital Care, The Commonwealth Fund, New York, 1947, pp. 608, 631.
8. Ibid, p. 43.
9. Annual Statistics American Hospital Association: Hospitals **29**:10, 1955.
10. National Conference on the Care of the Long-term Patient; Report of Study Group I—The Patient At Home, 1954, p. 2.
11. Breslow, L., Cherkasky, M., and others: Where Are We Going in Public Health. Association Symposium (Part II), J. Am. Pub. Health Assoc. **46**:408, 1956.
12. Terris, M., and Kramer, N. A.: General Medical Care Programs in Local Health Departments, New York, 1951, Am. Pub. Health Assoc., 129 pp.
13. Federal Security Agency, Social Security Administration; Medical Care in Public Assistance, Part II, Summary Report. Public Assistance Report No. 16. June, 1952.
14. Waterhouse, A., and others: Public Health Service Monograph 35, Publication No. 447, Washington, D. C., 1955, U. S. Govt. Printing Office.
15. Switzer, M. E., and Rusk, H. A.: Keeping Older People Fit for Participation, Ann. Am. Acad. Pol. & Soc. Sc. **279**:146, 1952.
16. Abramson, A. S.: Rehabilitation in Geriatric Practice, Canad. M. A. J. **72**:327, 1955.
17. Randall, O. A.: Social Rehabilitation of the Older Person, New York J. Med. **55**:2026, 1955.
18. Davidoff, E.: Psychiatric Aspects of Geriatric Rehabilitation, New York J. Med. **55**:2200, 1955.
19. Krauss, T. C., and others: The Role of Comprehensive Rehabilitation in the Care of the Geriatric Patient, New York J. Med. **55**:2331, 1955.
20. Commission on Chronic Illness, Chronic Illness News Letter **6**:1, 1955.
21. Medical Research, A Mid-century Survey. American Foundation, Little, Brown & Co., Boston **1**:193, 1955.

22. McGibony, J. R., and Mack, B. M.: Terminology of Medical Administration: A Short Glossary of Selected Terms With Particular Reference to Institutional Care, U. S. Public Health Service, 1954 (Processed).
23. Chronic Illness in the United States, Care of the Long-term Patient, vol. 2, Cambridge, Mass., 1956, Commission on Chronic Illness. Harvard University Press, 606 pp.
24. Bluestone, E. M.: Agenda for critical exploration of current problems in medical care, Pub. Health Rep. **68**:1225, 1953.
25. Roberts, D. W.: The Over-all Picture of Long-term Illness, J. CHRON. DIS. **1**:149, 1955.
26. Chronic Illness in the United States, Care of the Long-term Patient, Vol. 2, Cambridge, Mass., 1956, Commission on Chronic Illness, Harvard University Press, p. 5.
27. Bluestone, E. M.: Medical Care for Patients With Prolonged Illness, Ann. Am. Acad. Pol. & Soc. Sc. **273**:144, 1951.
28. Bluestone, E. M.: The Custodial Case and the Chronic Patient, Mod. Hosp. **86**:140, 1956.
29. Anderson, J. E.: Assessment of Aging, Pub. Health Rep. **70**:840, 1955.
30. Chronic Illness in the United States, Care of the Long-term Patient, Vol. 2, Cambridge, Mass., 1956, Commission on Chronic Illness, Harvard University Press, p. 5.
31. Taylor, M. G.: Long-term Patients in Short-term Hospitals, Hospitals **27**:74, 1953.
32. Roberts, D. W., and Krueger, D. E.: One in Eight is a Long-term Case, Hospitals **29**:59, 1955.
33. Solon, J., and Barney, A. M.: Beds in Nursing Homes and Related Facilities, Pub. Health Rep. **69**:1121, 1954.
34. The National Health Survey Act, Pub. Health Rep. **72**:1, 1957.
35. Organization of the National Health Survey, Pub. Health Rep. **72**:5, 1957.
36. Lepawsky, A.: Administration, Alfred A. Knopf., 1949, pp. 22-23.
37. Rogers, E. S.: Planning for a Broad Health Program, Ann. Am. Acad. Pol. & Soc. Sc. **273**:176, 1951.
38. Planning for the Chronically Ill, A Joint Statement by the AHA, AMA, APHA, and APWA, Public Welfare **5**:218, 1947, Am. J. Pub. Health **37**:1256, 1947; J.A.M.A. **135**:343, 1947; Hospitals **21**:108, 110, 112, 1947.
39. Roberts, D. W.: The Commission on Chronic Illness, Pub. Health Rep. **69**:295, 1954.
40. Commission on Chronic Illness, Chronic Illness News Letter, **6**:6, June, 1955.
41. Mayo, L.: Hospitals Must Focus on Long-term Problems, Mod. Hosp. **86**:67, 1946.
42. Nicholson, E.: Planning New Institutional Facilities for Long-term Care, New York, 1956, G. P. Putnam's Sons, 358 pp.
43. Waterman, T. L., and Lang, V. F.: Chronic Illness, St. Louis, 1955, The C. V. Mosby Co.
44. Yerby, A. S.: Planning the Rehabilitation Center, J. Rehabilitation **21**:13, 1955.
45. Pohlman, K. E., and others: The President's Rehabilitation Program—A Symposium, Am. J. Pub. Health **45**:1475, 1955.
46. Organized Home Medical Care in New York City, A Study of Nineteen Programs, Hospital Council of Greater New York, Cambridge, Mass., 1956, Harvard University Press.
47. Smith, L. M.: The Social Significance of Chronic Illness, Pub. Health Rep. **71**:897, 1956.
48. Chronic Illness in the United States, Care of the Long-term Patient, vol. 2, Cambridge, Mass., 1956, Commission on Chronic Illness, Howard University Press, p. 423.
49. Standards of Care for Older People in Institutions. National Social Welfare Assembly, National Committee on Aging. Published under a grant from the Frederick and Amelia Schimper Foundation, 1953, 1954.
50. 1954 Amendments to the Hospital Survey and Construction Act; Public Law No. 482, 83rd Congress and 1950 Amendments to the Social Security Act, Public Law No. 734, 81st Congress. U. S. Govt. Printing Office, Washington, 25, D. C.
51. Solon, J., and Roberts, D. W.: Survey Shows How Services Vary; Progress Report on a Thirteen State Study of the Types of Care Offered in Private Nursing Homes, Mod. Hosp. **84**:67, 1955.
52. Brightman, I. J., and others: Proprietary Nursing and Convalescent Homes; Their Role in Providing Care for the Chronically Ill, New York J. Med. **55**:1713, 1955.
53. Equipping the Nursing Home, Modern Hospital, U.S.P.H.S. Division of Hospital and Medical Facilities, Equipment Planning Branch, **86**:79, 1956.
54. Planning and equipping the Nursing Home, Modern Hospital, U.S.P.H.S. Division of Hospital and Medical Facilities **86**:69, 1956.
55. Morgan, D. D.: Built for the Ages—65 Years and Up, Mod. Hosp. **86**:82, 1956.
56. Chodes, A.: Not Just Custody but Treatment for All, Hospital Management **80**:46, 1955.
57. Gibson, K. B.: Work of a Geriatric Unit—A Survey of 13,500 Patients, Lancet **268**:960, 1955.
58. Anderson, W. F., and Cowan, N. R.: A Consultative Health Centre for Older People—the Rutherglen Experiment, Lancet **269**:239, 1955.
59. Shindell, S.: An Approach to the Unadjusted Elderly; Woodruff Center, Connecticut, Pub. Health Rep. **69**:734, 1954.
60. Greenblatt, M., York, R. H., and Brown, E. L.: From Custodial to Therapeutic Patient Care in Mental Hospitals, Russell Sage Foundation, 1955, 497 pp.

61. Harris, L., and Tillmann, W. A.: A Psychiatric Unit in a General Hospital, Canad. Hosp. **32**:37, 1955.
62. Burling, T., Lentz, E., and Nelson, R.: The Give and Take in Hospitals, New York, 1956, G. P. Putnam's Sons, pp. 355.
63. Conner, J. F. et al.: A Hospital Unit for the Care of the Patient With Long-term Illness: the Intermediate Service, J. CHRON. DIS. **2**:162, 1955.
64. Bluestone, E. M.: What Stand Should the General Hospital Take on Chronics, Hospital Management **79**:48, 1955.
65. Scheele, L. A.: Federal and State Partnership: Problems in Administration, Research, and Practice, Pub. Health Rep. **69**:72, 1954.
66. Hubbard, R. W., Scheuer, M., and Farrisey, R. M.: Referral Plans, Nursing Outlook **4**:18, 1956.
67. Field, M.: The Nurse and the Social Worker on the Hospital Team, Am. J. Nursing **55**:694, 1955.
68. National League for Nursing; Report of the Conference on Public Health Nursing Care of the Sick at Home, 1953, 57 pp.
69. Kaplan, J.: The Integration of Social Service Activities and the Post Hospital Adjustment of the Aging, J. Am. Geriatrics Soc. **3**:467, 1955.
70. Organized Home Medical Care in New York City, A Study of Nineteen Programs, Hospital Council of Greater New York, Cambridge, Mass., 1956, Harvard University Press, p. 26.
71. Serbein, O. N., Jr.: Paying for Medical Care in the United States, New York, 1953, Columbia University Press, 543 pp.
72. Goldman, F.: Voluntary Medical Care Insurance in the United States, New York, 1948, Columbia University Press, 228 pp.
73. Health Insurance at Record High, Hospital Management **80**:44, 1955.
74. Anderson, O. W.: National Family Survey of Medical Costs and Voluntary Health Insurance, New York, 1954, Health Information Foundation, p. 11.
75. Chronic Illness in the United States, Care of the Long-term Patient, Vol. 2, Cambridge, Mass., 1956, Commission on Chronic Illness, Harvard University Press, p. 441.
76. Aitken, A. P.: Rehabilitation in Workmen's Compensation, J. Am. Pub. Health **45**:880, 1955.
77. Becker, H., and Hayes, J. H. (editor): Financing Hospital Care in the United States, vols. 1-3, New York, 1955, McGraw-Hill Book Co., Inc.
78. Dickinson, F. G., and Raymond, J.: The Economic Position of Medical Care, 1929, J.A.M.A. **159**:41, 1955.
79. Koch, A. R.: The Economic Aspects of Rehabilitation of the Older Person, New York J. Med. **55**:2030, 1955.
80. Corson, J. J., and McConnell, J. W.: Economic Needs of Older People, Twentieth Century Fund, 1956, 533 pp.
81. Anderson, O. W.: Financing of Long-term Illness, J. Am. Pub. Health **46**:447, 1956.
82. Brightman, I. J.: Medicosocial and Economic Aspects of the Long-term Illness Problem, New York J. Med. **55**:1315, 1955.
83. Guides to Action on Chronic Illness, New York, 1956, National Health Council, pp. 59-72.
84. Goldman, F.: Home Care for the Needy and Medically Needy, J.A.M.A. **148**:1085, 1952.
85. Highlights of the 1954 National Health Forum on Changing Factors in Staffing America's Health Services, 34th Annual Meeting, New York, March 24-26, 1954, 113 pp.
86. Health Manpower Source Books, Sections 1-7, U. S. Department of Health, Education and Welfare, PHS Publication No. 263. Section 1: Physicians, May, 1952, 70 pp. Section 2: Nursing Personnel, May, 1953, 88 pp. Section 3: Medical Social Workers, August, 1953, 78 pp. Section 4: County Data, 1954, 247 pp. Section 5: Industry and Occupation Data, 1954, 215 pp. Section 6: Medical Record Librarians, 1954, 41 pp. Section 7: Dentists, 1955, 158 pp.
87. Inventory of Professional Registered Nurses—1958, Am. J. Nursing **55**:680, 1955.
88. Hagerman, L. C.: The 1955 Census of Public Health Nurses, Am. J. Nursing **55**:1493, 1955.
89. Chronic Illness in the United States, Care of the Long-term Patient, vol. 2, Cambridge, Mass., 1956, Commission on Chronic Illness, Harvard University Press, p. 435.
90. Hamrin, G.: A Training Program for Directors of Homes for the Aged, Geriatrics **10**:391, 1955.
91. Kendall, K. A.: Education for Social Work, Am. Assoc. Social Workers; Social Work Yearbook, New York, 1954, p. 170.
92. Kelly, D. N.: Practical Nurse Students and the Cancer Patient, Am. J. Nursing **55**:454, 1955.
93. Wollmann, F.: The Nurse in a Domiciliary Medical Care Program, Am. J. Nursing **53**:443, 1953.
94. Administrative Medicine, Transactions of the First Conference, March 9, 10, and 11, 1953, The Josiah Macy, Jr. Foundation, p. 108.
95. Cherkasky, M.: Prolonged Illness, J. M. Educ. **28**:15, 1953.

VOL 7 195

96. Health for the American People, A Symposium, Massachusetts Memorial Hospital, Boston, 1956, Little, Brown & Co., pp. 19-22.
97. Bakst, H. J.: Domiciliary Medical Care and the Voluntary Teaching Hospital, Am. J. Pub. Health **43**:589, 1953.
98. Bakst, H. J.: A Domiciliary Medical Care Program as an Integrated Facility in the Medical Curriculum, J. Am. Med. College, **25**:406, 1950.
99. Prosser, L. E.: Home Care Experience as Part of the Curriculum, Am. J. Nursing **55**:819, 1955.
100. Stone, B. S., and Bakst, H. J.: Educational Experience in Social Work and Medicine on a Domiciliary Medical Care Service, Social Service Review **26**:42, 1952.
101. Sheps, C. G., and Taylor, E. E.: Needed Research in Health and Medical Care, 1954, University of North Carolina Press, p. 152.
102. Ciocco, A., and Ring, M. D.: Experience in Providing Care for the Long-term Patient, and the Light It Throws on Additional Research Needed, J. CHRON. DIS. **1**:392, 1955.
103. Keefer, C. S.: The Impact of Research and Medical Education on Public Health, Pub. Health Rep. **69**:80, 1954.
104. Trussell, R. E., Elinson, J., and Levin, M. L.: Comparisons of Various Methods of Estimating the Prevalence of Chronic Disease in a Community—the Hunterdon County Study, Am. J. Pub. Health **46**:173, 1956.
105. Sartwell, P. E.: Some Approaches to the Epidemiologic Study of Chronic Disease, Am. J. Pub. Health **45**:609, 1955.
106. Chronic Illness in the United States, Care of the Long-term Patient, Vol. 2, Cambridge, Mass., 1956, Commission on Chronic Illness, Harvard University Press, p. 435.
107. Snedeker, L., and Lancaster, E. S.: A Preliminary Inquiry Into the Cost of Hospital Care for Certain Diseases and Their Implications in Rehabilitation, Am. J. Pub. Health **45**:1127, 1955.
108. Hilleboe, H., and James, G.: Evaluation During the Development of a Public Health Program in Chronic Disease, Am. J. Pub. Health **45**:140, 1955.
109. APHA Subcommittee on Medical Care: The Quality of Medical Care; Bibliography No. 9, New Haven, Conn., 1954.
110. Curry, B. G. H. and others: Am. J. Pub. Health **45**:1011, 1955.
111. Weiskotten, H. G.: The Basis of High Standards of Medical Care, J.A.M.A. **158**:253, 1955.
112. Goldmann, F., and Graham, E. A.: The Quality of Medical Care Provided at the Labor Health Institute, St. Louis, Missouri, Labor Health Institute, St. Louis, 1954, 11 pp.
113. Hawley, P. R.: Evaluation of the Quality of Patient Care, Am. J. Pub. Health **45**:1533, 1955.
114. Myers, R. S.: The Audit Makes "Evaluation" Meaningful, Mod. Hosp. **87**:96, 1956.
115. Ladimer, I.: Trends in Support and Expenditures for Medical Research, 1941-1952, Pub. Health Rep. **69**:111, 1954.

OL.
7
958

Book Reviews

LIVER: STRUCTURE AND FUNCTION. By Hans Popper, M.D., Ph.D., and Fenton Schaffner, M.S., M.D., New York, 1957, McGraw-Hill Company. Pp. 777. Price $20.00.

How shall we as physicians integrate the complex and vast body of knowledge in given areas of disease? This situation is steadily getting more difficult. To this reviewer it can be done only by changing our orientation in medicine, all of medicine, for young and old, from the idea of "diseases" to a concept of illness based not on standard, supposed entities of disease, but on the only realities of illness, those disturbed processes—genetic, developmental and senescent, psychogenic, physiologic, and environmental—which comprise all sickness. Any one of these processes constitutes part of a great many kinds of illness.

This book by a pathologist, Hans Popper, and a physician, Fenton Schaffner, does not accomplish this kind of orientation for the many processes in which the liver is involved. But it struggles bravely, at least, in the direction of integration and accomplishes much toward a view of pathophysiology. Regardless of previous considerations it provides an extensive source of present knowledge in structure, function, and pathology of the liver.

One wonders how much could be done to improve the availability of the material. The volume is large, which makes it difficult and complex to use for brief survey. The systematic organization into "Function of Hepatic Blood Vessels," etc., is a little hard to use since there is so much ground to cover. Much detail could be relegated to the end of the chapter or book, or to small print perhaps. The volume is profusely and excellently illustrated, which is very helpful.

Half of the book is given over to the normal structure and function of the liver, to the pathophysiology of jaundice, cirrhosis, inflammation, etc., and to tests of liver function and damage. The rest is given over to liver "diseases" and to the relation of the diseased liver to other organs. Pathophysiology is stressed throughout.

The medical student or graduate interested in mechanisms of disease should find this book of much interest. It makes a good reference book also for the practicing physician who will be carried rather more deeply into the subject than one expects from textlike references.

In a volume covering such an immense field the treatment given to any one topic is apt to fall short of the mark set by an expert reading it; but on the whole I believe the book to be quite authoritative and inclusive. It is interesting and readable.

Comparing this work with one such as that by Schiff (*Diseases of the Liver*, 1956) one finds more physiology in this book and more clinical considerations in that of Schiff. Together these books comprise an excellent background for learning the fascinating processes of liver disturbance.

F. W. Barnes

FOOT TROUBLES. By T. T. Stamm, F.R.C.S. New York, Philosophical Library, Inc. Price $4.75.

Foot Troubles is a 122-page manual on minor diseases of the feet. It is written to the level of "foot sufferers" but it is so directly presented that it will be of interest to and help clarify the thinking of all personnel caring for the feet—from nurses to orthopedic surgeons. Among the, topics included are flat foot, corns and callosities, chronic sprain, metatarsalgia, plantar wart, and ingrowing toenails. The description of the deformity and the natural history of metatarsus varus is excellent. The book is clearly written and remarkably common sense for a subject notorious for nonsense.

R. Robinson

ORGANIZED HOME MEDICAL CARE IN NEW YORK CITY. A STUDY OF NINETEEN PROGRAMS BY THE HOSPITAL COUNCIL OF GREATER NEW YORK. Cambridge, Mass., 1956. Published for the Commonwealth Fund by Harvard University Press. Pp. 538. Price $8.00.

This study of various programs for home medical care to the indigent and medically indigent in New York City was made by the Hospital Council of greater New York, aided by the Commonwealth Fund. The report covers a period of 5 years from 1951 to 1956. Its purpose is to review this form of medical care, rendered on an experimental basis during this time, to assay its value, and to plan its expansion.

The report is divided into 5 parts. The first sets forth the objectives of the study and the recommendations and conclusions evolved. The second presents the history of the evolution of the home care programs in New York City. The third part presents a detailed study of the patients served, their family constellations, and their home environments, and the effect on the latter two of the home care program. The fourth and fifth parts analyze the programs from an administrative and economic point of view and review the relationship of the home care programs to other medical services (hospitals, Health Department clinics, and private agencies) available for the clients. In a series of appendices detailed reports on the operations of each separate program are presented.

VOL.
7
1958

The report is well written in a clear and comprehensive fashion. It presents an appraisal of the programs giving their good and bad points in an objective fashion. The inadequacies of this type of care are clearly defined, yet, for the most part constructive recommendations are presented for each deficiency recognized.

Despite the high tenor of the report, on rare occasions there appear some naive statements. In describing the language barrier existing between non-English speaking physicians and their English-speaking patients, the report states, "One can imagine the difficulty a patient would have in describing the quality of a chest pain so that the physician might distinguish between simple angina and the pain of an impending infarction." In recommendations concerning future personnel the report states, "An experienced clinician, either certified by the American Board of Internal Medicine, or qualified for certification, should be assigned responsibility for supervising the quality of care in each of the general home care programs."

The report is highly recommended. It is the first such comprehensive report known to the reviewer on this form of medical care which is bound to expand and assume much greater importance in the next decade.

John Collins Harvey, M.D.

VOLUNTARY HEALTH INSURANCE IN TWO CITIES. A Survey of Subscriber-households. Odin W. Anderson, Research Director, Health Information Foundation and the staff of The National Opinion Research Center. Pp. 145. Tables. Published by the Harvard University Press, Cambridge 38, Mass. Price $5.00

At first glance this excellent book might be considered valuable only as an actuarial study. For actuaries working in the relatively new field of major medical insurance, the book is a must; for all serious workers in social welfare, group insurance, and associated fields, this study is an indispensable adjunct. Interestingly written, statistically flawless, with a wealth of tables, it points the way to further necessary studies in this fascinating field.

The study is a cross-section comparison of three hospitalization plans: Blue Cross/Blue Shield in Birmingham, Alabama; Blue Cross/Blue Shield in Boston, Massachusetts; and similar coverage on a group basis in the Boston area by a large life insurance company.

The objective of the study was to ". . . provide the public. . . with data which accurately measures the accomplishments of present hospital and medical prepayment and insurance coverage." The objective has been admirably accomplished; it is only to be regretted that the study was not wider in its scope.

The tables range over a broad spectrum: from a simple distribution table showing the age and sex of the insured individuals all the way to "attitude" tables indicating consumer reaction, not only to the plans in operation, but to possible changes in the plans.

Highly recommended reading for everyone with any interest in this important subject.

James H. Pollard

THE CHEMISTRY AND BIOLOGY OF PURINES—Ciba Foundation Symposium. Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and C. M. O'Connor, B.Sc. Little, Brown & Company, Boston, 1956. Pp. 327. Indexed. Price $9.00.

This volume is the record of the Ciba Foundation Symposium on "The Chemistry and Biology of Purines," held in London on May 8 through 10, 1956. Although the organizers of the Symposium apologize for the necessity to restrict attendance, it is quite apparent from the list of participants that many of the active workers in this field were represented. For the American reader, especially, this affords the opportunity, not only to become acquainted with investigators in other parts of the world, but to learn something of their particular areas of interest.

As the title suggests, this Symposium attempted to bring together the viewpoints of the synthetic chemist and the biochemist so that behavior of purines both in the test tube and in the functioning organism could be compared. Several of the papers discuss new synthetic methods. The value of these new methods lies not only in the possibility of making new purine derivatives or in making the older ones faster or cheaper, but also in revealing the mechanisms by which reactions take place. This will help to explain some of our present biologic reactions and anticipate new ones. The synthesis of various isomers and the proof of structure by their spectra and their attackability by various reagents begin to lay the groundwork for theories of isomerism and spatial configuration in the purine series. These studies suggest which positions in the rings are liable to react or break out under a given set of conditions. For example, two different authors discussed the conversion of purines to pteridines. In this case the 8 carbon of the purine ring was susceptible to attack, leading to ring enlargement. Such a reaction could explain the origin of so many biologic compounds of this important type, and has particular bearing on the folic acid problem. Many new purines in the B_{12} series of vitamins had been studied both chemically and biologically. Their significance in nature was not entirely clear at the time of the Symposium. Much interest was directed at the sugar, and sugar-phosphate derivatives of the purines. The antibiotic, puromycin, is an unusual compound of this type. That it might function as an inhibitor of purine and nucleic acid synthesis was given experimental support. Another unusual nucleotide discussed was that of the unsubstituted purine itself. This had some unexpected chemical properties as well as a marked toxic effect on animals. The biosynthesis of purine nucleotides was presented at considerable length and forms a brilliant chapter in present-day biochemistry. One fascinating paper proposed that xanthine oxidase was the key enzyme that controls the purine pool and nucleic acid synthesis. The remainder of the Symposium was devoted to the biological and clinical effects of purine analogs such as 8-azapurines and 6-mercaptopurine. Perhaps this aspect of purine chemistry and biology is the climax for which the foregoing is only preparation. At any rate, this Symposium records much fact and speculation as to how purines function inside and outside the body. It is a stimulating and provocative story.

Charles Bishop

PRACTICAL OTOLARYNGOLOGY. G. W. McAuliffe. New York, McGraw-Hill, Inc. Indexed. Pp. 320. Price $7.00

The author has attempted the very difficult task of providing a reference text of use to the general practitioner in his management of diseases of the ear, nose, and throat. The book is clearly written and, in parts, covers the subject admirably. It is unfortunate that much is included of little use to the physician to whom an ear, nose, and throat consultant is available, while some of the simpler procedures are not thoroughly detailed.

This reviewer disagrees with much that is said regarding therapy, especially the section on wet-suction irrigation of the tonsils.

The book is not recommended.

Donald Proctor, M.D.

METHODOLOGY OF THE STUDY OF AGING. CIBA FOUNDATION COLLOQUIA ON AGING. Vol. 3. Edited by G. E. Wolstenholme, O.B.E., M.A., M.B., B. Ch., and Cecelia M. O'Connor, B.Sc., Boston, 1957, Little, Brown & Company. Price $6.50.

Because of the increasing tempo of research in the field of aging, the Ciba Foundation brought together a group of eminent scientists to discuss methodology of the study of aging under the chairmanship of Professor C. H. Best of the University of Toronto. In opening the conference, Dr. Best states that at this stage in the study of aging, it is wise to inspect broad fields and not to worry unduly about exact definitions. It is apparent in this report of the Conference that the fields are too broad and the definitions too inexact. One clinician cuts through the confusion with this demand: "Aging must be something you can define and you, as a scientist, must be able to tell me as a clinician, 'These are the clinical signs of aging.' And it must not be a disease."

Unfortunately, this demand cannot be met. A cardinal purpose of research in aging is to give a clear answer to this question. There is no agreement among the authors as to what aging is. Some consider it to be the sum of a number of morbid processes, others as a natural decline in the ability of the organism to adapt to the environment or to proliferate new cells.

VOL.
7
1958

Various methods in use for the study of aging are described. A list of these are the comparison of life tables in different species, the application of uniform tests or stimuli to different age groups, cell and tissue studies of aged organisms, the use of inbred strains of animals, organ transplantation, parabiosis, the comparison of twin data, and the use of psychological testing.

All papers are subjected to close scrutiny in open discussion, laying bare the weaknesses and pitfalls of various methods.

There is an excellent index and much of the data presented is of importance as a description of aged organisms. The book is recommended as a survey of research being carried on in the field of aging.

Douglas Carroll

A CLASSIFIED BIBLIOGRAPHY OF GERONTOLOGY AND GERIATRICS. Supplement One, 1949-1955. By Nathan W. Shock, Ph.D., Stanford, Calif., 1957, Stanford University Press. Price $15.00.

In 1951, Stanford University published *A Classified Bibliography of Gerontology and Geriatrics*. The present supplement is a continuation of this work under the direction of Dr. Nathan Shock. The result is a meticulous, well-organized, and exhaustive bibliography essential to anyone working in the field covered.

Douglas Carroll

J. A. M. A. CLINICAL ABSTRACTS, 1957, OF DIAGNOSIS AND TREATMENT. Selected by I. Phillips Frohman, M.D. Published by Intercontinental Medical Book Corporation with Grune & Stratton, Inc., New York. Pp. 554. Indexed. Price $5.50.

This volume contains clinical abstracts which appeared in the *Journal of the American Medical Association*, published in 1956, dealing with the general subjects of diagnosis and treatment. Not all of the abstracts are included but only those which the editor felt fitted into the above two mentioned important aspects of clinical medicine. These abstracts are organized under the great organ systems. The indexing follows a system used by the *Journal of the American Medical Association* but contains only an index of subjects and not of authors. It would have been desirable to have a more complete index. This volume will have usefulness for a period of a year or two and then will be largely superceded by later reports. It is recommended for reference libraries. It would not be useful as a medical text.

John Collins Harvey